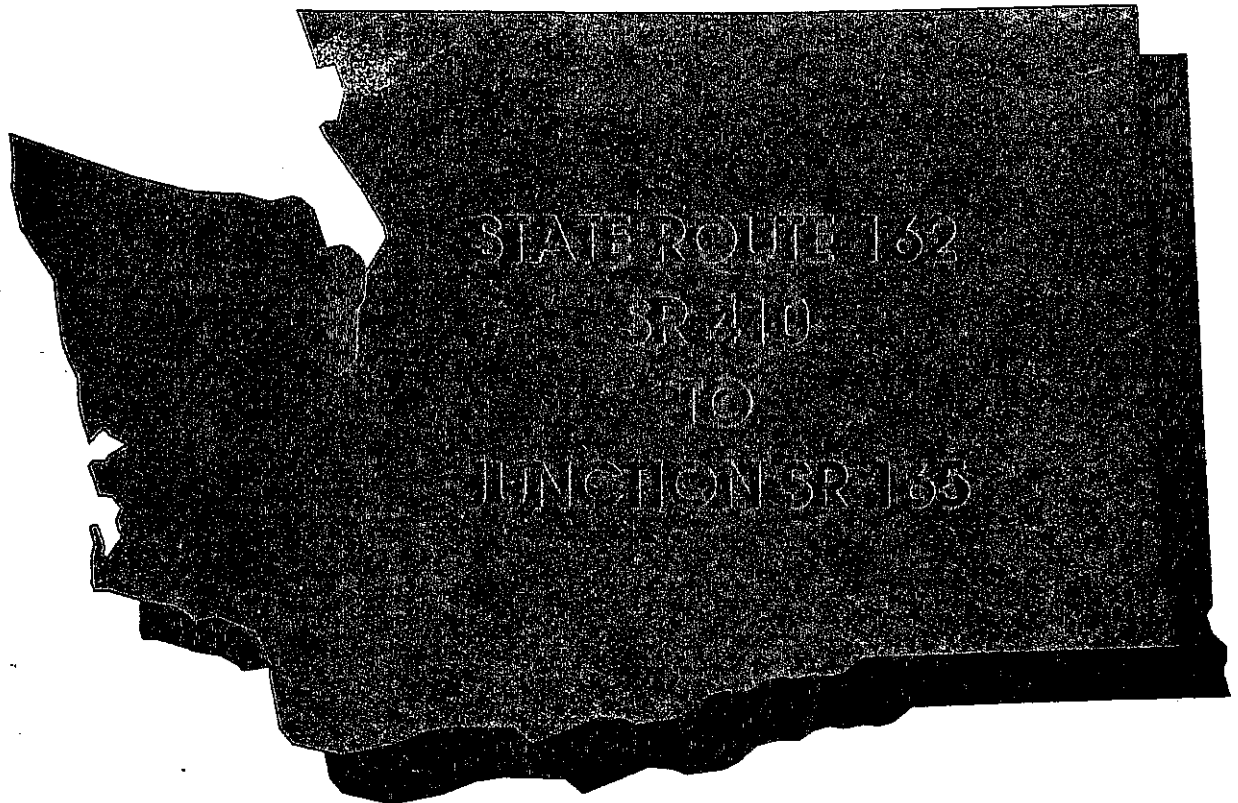


WSDOT Olympic Region

Route Development Plan



Washington State
Department of Transportation

**WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIC REGION
TUMWATER, WASHINGTON**

**ROUTE DEVELOPMENT PLAN
STATE ROUTE 162
SR 410 INTERCHANGE TO JUNCTION SR 165
MP 0.00 TO MP 19.78**

JANUARY 1997

**GARY F. DEMICH, P.E.
REGION ADMINISTRATOR**

**ROBERT E. JONES
TRANSPORTATION PLANNING MANAGER**

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIC REGION

ROUTE DEVELOPMENT PLAN


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Approved By:


Region Administrator, Olympic Region

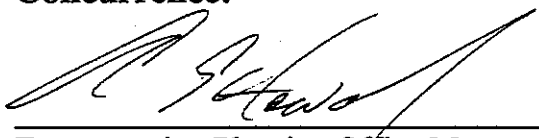
January 6, 1997
Date

Concurrence:


State Design Engineer, O.S.C.

January 10, 1997
Date

Concurrence:


Transportation Planning Office Manager, O.S.C.

1-8-97
Date

STATE ROUTE 162 ROUTE DEVELOPMENT PLAN

SUMMARY OF RECOMMENDATIONS

ACCESS MANAGEMENT

- This was a major focus point that helped the steering committee develop highway mobility recommendations.
- The RDP introduces the WSDOT Access Management Plan Classifications. Typical Roadway sections are presented that highlight median treatments associated with the Class 2, 3, and 4 designations. Recommendations regarding Median Barrier, Raised Curbed Medians, and TWLTL's are discussed.

HIGHWAY MOBILITY

- SR 410 to Pioneer Way--Widen to a five lane roadway.
- Pioneer Way to 144th near Orting--Widened to a four lane highway with median barrier. Selected intersections in this segment would remain accessible to left turns and possibly U-turns.
- 144th to Whitesell Street in Orting--Widen to four or five lanes. Either a center two-way left-turn lane (if warranted) or raised median islands should be used.
- Orting Business District-- Construct One-way couplet system with minimal impacts to the surrounding developments and businesses. This concept would use the existing highway for two lanes of northbound travel, while Corrin Avenue to the West could serve two lanes of travel Southbound.
- Corrin Avenue to Orville Road--Widen to a four or five lane facility.

HIGHWAY SAFETY

- Traffic Signals have been recommended at several locations along SR 162 between the Cities of Sumner and Orting.
- SR 162 is identified as a High Accident Corridor from SR 410 to the vicinity of Orting. Roadway cross section improvements and the recommended widening will help reduce the severity and number of accidents.
- Other sections along SR 162 are targeted for short realignment to improve curves.

TRANSIT, PARK AND RIDE LOTS, AND NON MOTORIZED

- Increased transit service is encouraged by WSDOT.
- No park and ride lots are currently planned for the SR 162 corridor.
- Facilities for Pedestrians and Bicyclists include the highway shoulder along SR 162. Also, sidewalks are planned as part of highway improvements in the Sumner and Orting vicinities. Other city and county roads also are recommended for non motorized travel. The Foothills Trail should be used for non motorized travel.

Executive Summary

Vision Statement

An efficient network of transportation facilities in the Puget Sound Region is vital to moving people and goods. Transportation affects us all--our lives and livelihoods depend a great deal on an efficient transportation system that offers opportunities for various choices and modes of travel. To many extents our transportation facilities have been provided to meet the travel needs, but they were constructed to accommodate a population of the past.

Many citizens are discovering that the Puget Sound Region offers an exceptional environment to live and work. The demands on our state highways have escalated as the population of the region has increased.

In order to assure an efficient transportation system for the future, it is important to plan for the growth that continues to occur. A Route Development Plan (RDP) is conducted to provide solutions to existing and future deficiencies of the transportation system. This RDP discusses specific improvements needed along State Route 162. Some of the recommended improvements in this RDP, such as access management implementation, take a bold new step to assure an adequate operation of State Route 162. These improvements and goals for the future are best achieved through cooperative planning efforts and consensus with affected city and county agencies. This Route Development Plan was prepared in such a way. The State Route 162 Steering Committee members provided many invaluable contributions in the development of this RDP. They shared with the committee their respective agency Comprehensive Plans and transportation goals, policies, and targeted highway improvement projects. Collectively, these Comprehensive Plans and the *WSDOT State Highway System Plan* provided the impetus for what is recommended in this Route Development Plan.

SR 162 Route Development Plan

Study Limits

State Route 162 has been selected by the WSDOT Olympic Region to be studied through the Route Development Plan (RDP) process. This RDP outlines a vision for the future development of State Route 162. The study limits of this RDP begin at the SR 410 Interchange in Sumner and end at the junction with State Route 165 just south of the City of Buckley.

Organization of this Report

This SR 162 Route Development Plan is organized by various topics. To begin with, Chapter 1 introduces the WSDOT Highway Improvement Program I. Most of the recommendations in this RDP relate to this program, which includes highway mobility, highway safety, and environmental and economic improvements.

Chapters 2 and 3 discuss the route location, its classifications and existing conditions such as highway alignment, right-of-way, and geometric cross sections.

Traffic information and land use are presented in Chapter 4 of this RDP. Highway operating Levels of Service (LOS) are summarized, and tables are provided that highlight existing and future LOS's for highway segments and intersections. Much of the recommended mobility improvements in this RDP are based on findings regarding the highway LOS.

Chapters 5 and 8 present recommendations for highway improvements. In Chapter 5 details regarding these improvements are discussed, while Chapter 8 summarizes recommended costs and time frames for completion. The current *WSDOT State Highway System Plan* does not include mobility improvements for SR 162 in its financially constrained list of project strategies. This means that SR 162 would not receive the recommended mobility improvements outlined in this RDP within the next twenty years. However, Chapters 5 and 8 point out that this programming should be reevaluated as updates to the *Highway System Plan* are performed. It was found through this RDP process that SR 162 needs some mobility improvements soon, as it now operates at less than standard Levels of Service (LOS) in some areas.

Chapter 6 of this RDP focuses on environmental issues at a screening level of analysis.

Chapter 7 in this RDP summarizes the public involvement process. These efforts added much value to this report, allowing the RDP Steering Committee to make decisions and recommend improvements based on many different agency and public needs.

Stakeholder Involvement

A steering committee was formed to guide transportation decisions and reach a common vision on issues discussed in this RDP. This committee included representatives from city and county agencies, the Puget Sound Regional Council, WSDOT, Office of Urban Mobility, and a transportation interest group known as the Rails to Trails Coalition.

WSDOT conducted several public open houses to present information and solicit comments from the public regarding this RDP. Additionally, a public opinion

survey was conducted of 300 residences and a majority of the businesses within the SR 162 corridor.

Route Development Plan Recommendations

The recommendations in this Route Development Plan represent the efforts of many discussions with local agencies and the public. To aid the steering committee in reaching consensus on issues such as mobility, access management, and highway safety improvements, many WSDOT documents, including the current *State Highway System Plan, March 1996* and the city and county comprehensive planning documents, were consulted. The *WSDOT Access Management Plan* classifications of SR 162 influence the type of roadway median sections proposed as part of the mobility recommendations. A complete discussion of project recommendations is presented in Chapter 5 of this RDP.

Some of the recommended improvements in this RDP include:

- Widen SR 162 from SR 410 to Pioneer Way near South Sumner as a five lane roadway, complete with enclosed drainage, curbs, gutters, and sidewalks.
- From Pioneer Way to 144th near North Orting, it is recommended that the *WSDOT Access Management Plan* Class 3 designation be changed to Class 2. This section should be widened to a four lane highway with median barrier used to separate opposing directions of travel. Selected intersections in this segment would remain accessible to left turns and possibly U-turns.
- Between 144th and Whitesell Street in Orting, this RDP recommends widening SR 162 similar to the first section mentioned above. Either a center two-way left-turn lane (if warranted) or raised median islands should be used as a median treatment in this section of SR 162.
- The RDP Steering Committee concurred that in the business district of Orting, a one-way couplet system would work to solve the identified mobility deficiencies with minimal impacts to the surrounding developments and businesses. Since SR 162 does not presently operate within a generous right-of-way corridor, the couplet system concept appeared quite attractive. This concept would use the existing highway for two lanes of northbound travel, while Corrin Avenue to the West could serve two lanes of travel Southbound.
- South of the proposed couplet, from Corrin Avenue to Orville Road, SR 162 should be widened to a four or five lane facility within the next twenty years.
- No other segments of SR 162 east of Orville Road have been identified as needing mobility improvements within the next twenty years.

- Traffic Signals have been recommended at several locations along SR 162 between the Cities of Sumner and Orting.
- No park and ride lots are presently planned for the SR 162 corridor, however the route would benefit from such facilities. Chapter 5 discusses some logical locations for future park and ride lot facilities.
- Non-motorized improvements and transit are also discussed in Chapter 5 of this RDP.

Conclusion

Planning is an ongoing process and must be flexible in order to incorporate unforeseen trends. One of the goals of this plan is to integrate the Department of Transportation's needs with the needs of local transit authorities, cities, counties, regions, tribes, citizen groups, and the traveling public. It is believed that this plan along with a certain amount of flexibility will provide a safe and well integrated transportation system for State Route 162. This plan will be updated and modified periodically.

When approved, this long range plan will provide guidance for development of the Olympic Region's program of projects as well as guiding the Region's Development Services Team in defining developer impact mitigation measures. The Washington State Department of Transportation would like to express its sincere appreciation to the individuals and local and regional agencies that took an active role in the development of this plan. WSDOT encourages these agencies to actively participate in future planning processes and to review and comment on the contents of this plan. Final approval of the State Route 162 Route Development Plan will be issued by the WSDOT Olympic Region Administrator.

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1.1 WSDOT Highway Improvements (Program I)

Chapter 1 of the SR 162 Route Development Plan provides a background on the WSDOT Highway Improvement Program known as Program I. Program I is divided into the four categories of Highway Mobility, Highway Safety, Environmental Retrofit, and Economic Initiatives. To be funded, highway improvement projects in Program I must be contained in the current *Highway System Plan*. **Mobility projects must be contained in the "financially constrained" list of project strategies.**

The *WSDOT State Highway System Plan* is one element of *Washington's Transportation Plan*. It is important because it is the basis for the current two-year state transportation budget and the current six-year plan. Specifically, it provides service objectives and strategies for maintaining, operating, preserving, and improving our state highways.

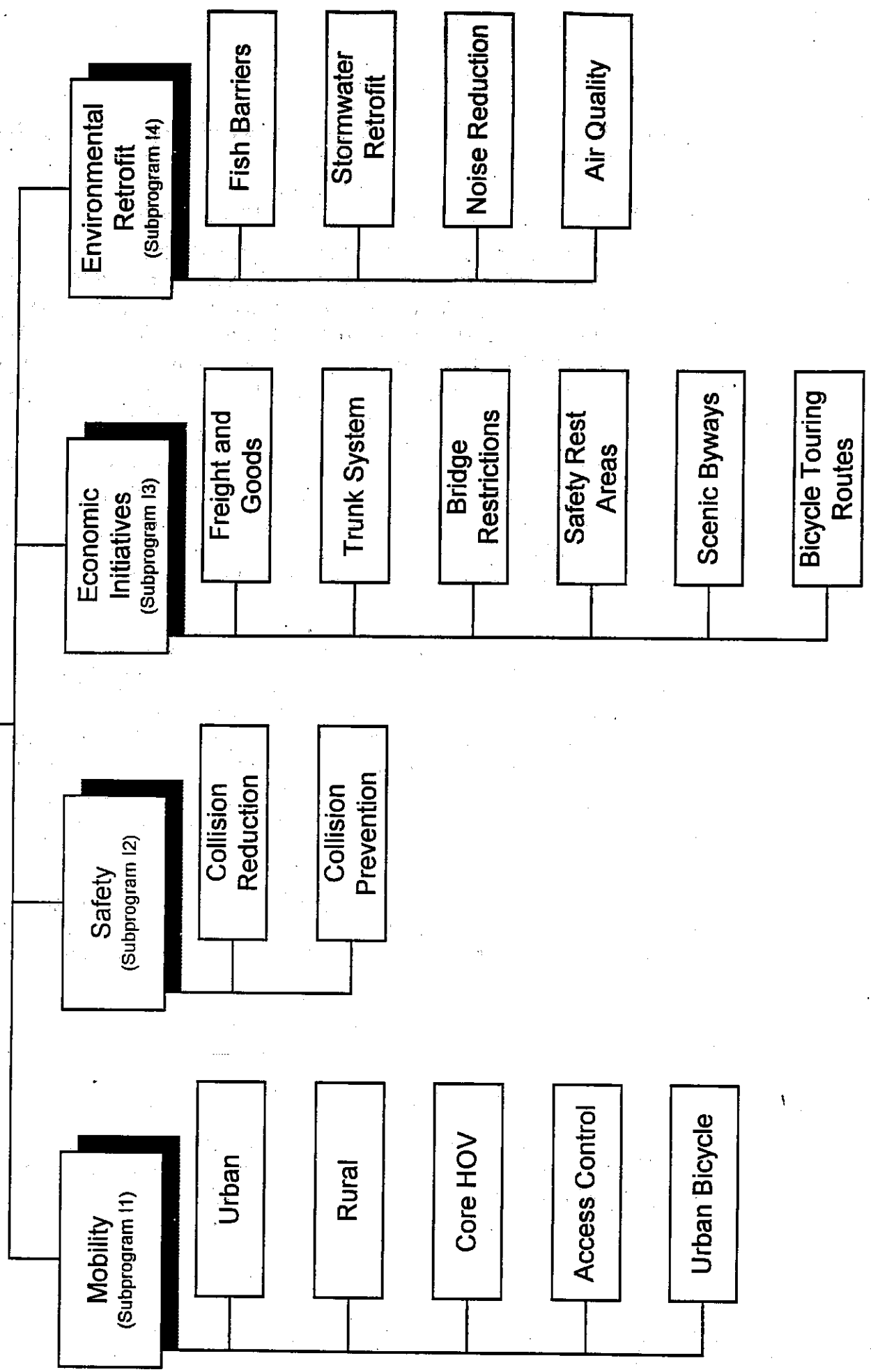
This Route Development Plan for SR 162 helps the WSDOT to further the vision and strategies contained in the current *Highway System Plan* by providing a more in-depth analysis of SR 162's current and future problems. This RDP focuses heavily on the Highway Improvement objectives and strategies contained in the *Highway System Plan*. Highway Operations is also discussed in this RDP. The other programs such as highway maintenance and preservation often do not require public consensus building. Highway Maintenance and Preservation programs are not covered in this RDP.

For further information about the WSDOT Highway Improvement Programs, consult the most current *WSDOT Highway System Plan* or *Washington's Transportation Plan*. For a copy of these documents please contact:

Washington State Department of Transportation
PO Box 47370
Olympia, WA 98504-7370
(360) 705-7962

The Highway Improvement Program I structure is illustrated on the following page. This program tree highlights the additional subcategories within the four Improvement subprograms.

State Highway Improvements (Program I)



1.2 Mobility Improvement (Subprogram I 1)

Highway System Plan Mobility Service Objective and Action Strategies

The *WSDOT Highway System Plan 1997-2016* Mobility Service Objective and Action Strategies that are applicable to the development of State Route 162 are listed below. For a complete listing of all action strategies consult the current *WSDOT State Highway System Plan*.

Service Objective:

Improve mobility within congested highway corridors.

Action Strategies:

- Provide transportation strategies through transportation demand management to reduce the growth rate in vehicle miles traveled.
- Mitigate congestion on urban highways in cooperation with local and regional jurisdictions when the peak period level of service falls below Level of Service D.
- Provide uncongested conditions (Level of Service C) on rural highways.
- Whenever cost effective, reduce the number of existing or potential access points by purchasing access rights.
- Provide bicycle connections along or across state highways within urban growth areas to complete local bicycle networks.

It is important to note that the present *WSDOT Highway System Plan* "financially constrained" list of mobility strategies does not include the mobility improvements recommended in Chapter 5 of this Route Development Plan. SR 162 mobility strategies are presently listed in the "non-constrained" portion of the *WSDOT Highway System Plan*.

This means that any mobility improvements to SR 162 would not be funded for the next 20 years. This RDP recognizes present highway operating conditions that do not meet current *Highway System Plan* action strategies, such as maintaining a level of service (LOS) D in Urban areas, or LOS C in Rural sections. Therefore this RDP recommends that SR 162 be reevaluated in future *Highway System Plan* updates. Perhaps at that time SR 162 will prioritize higher, allowing it to be placed in the 20 year "constrained" list.

The level of highway traffic analysis (including recent traffic counts) that went into this RDP exceeds that which was previously done for the *Highway System Plan*. As a result, this SR 162 Route Development Plan identifies a greater need for mobility improvements than was previously determined.

1.3 Safety Improvement (Subprogram I 2)

Highway System Plan Safety Service Objective and Action Strategies

All safety strategies are included in the financially constrained portion of the *WSDOT Highway System Plan 1997-2016*. Highway Safety Service Objective and Action Strategies that are applicable to the development of SR 161 are listed below. For a complete listing of all action strategies consult the current *WSDOT Highway System Plan*.

Service Objective:

Provide the safest possible highways within available resources.

Action Strategies:

- **Improve highway sections that have a high accident history. *Collision Reduction***
- **Improve roadways where geometrics, traffic volumes, and speed limits indicate a high accident potential. *Collision Prevention***
- **Construct intersection channelization, signals, or both when traffic volume warrants (thresholds) are met. Also *Collision Prevention***

The recommended Safety Improvement projects presented in Chapter 5 of this RDP, provide strategies to current Collision Reduction and Collision Prevention target areas. Recommended strategies to address HACs are based on recent accident analyses and previous strategies contained in the current Highway System Plan. It was found that some Collision Prevention sections overlap with Collision Reduction sections; and the best improvement strategies are usually common to both.

Collision Reduction

Collision Reduction strategies target highway locations that have a high accident history. Specific elements of the Collision Reduction category that apply to the RDP are identified below.

High Accident Corridors (HACS) - Identify "corridor" type sections of highway (typically greater than 1 mile) that exhibit accident severity and number rates above the statewide average for similar highways. Five years of accident history are used for determining the locations needing improvements.

Collision Prevention

Run-off-the Road Collision Prevention (Risk Reduction)- targets locations that possibly may not have a high accident history but exhibit a strong potential for future run-off-the-road accidents, based on the highway geometry, traffic volumes, and speeds. Listed below are some specific elements of the Collision Prevention category that are applicable to State Route 162.

Risk Reduction - Proactively identifies sections of state highways that have a high probability of vehicles leaving the roadway.

Signals and Channelization Collision Prevention - Identifies high priority intersection improvements such as new traffic signals and added turn lanes.

1.4 Economic Initiatives (Subprogram I 3)

Highway System Plan Economic Initiatives Service Objectives and Action Strategies

The *WSDOT Highway System Plan 1997-2016* Economic Initiatives Service Objectives and Action Strategies are not applicable to the development of State Route 162 and have not been provided in this Route Development Plan. For a complete listing of all service objectives and action strategies for the Economic Initiatives, consult the current *WSDOT Highway System Plan*.

One purpose of the Economic Initiatives is to provide highway improvements that will increase tourism in Washington State. This program recognizes deficiencies and identifies solutions to such topics as highway seasonal load restrictions, narrow shoulders on designated bicycle touring routes, new safety rest areas, and scenic and recreational highways.

None of the categories under Economic Initiatives apply to State Route 162.

1.5 Environmental Retrofit (Subprogram I 4)

Highway System Plan Environmental Retrofit Service Objective and Action Strategies

Environmental Retrofit targets improvement opportunities to categories such as storm water runoff quality and quantity, fish passage barriers, air quality, noise exposure, and wetlands.

The current *WSDOT Highway System Plan*, does not identify any deficiencies or strategies for State Route 162 in the Environmental Retrofit program.

The Service Objective of this program is listed below. Future updates to this Route Development Plan or to the *Highway System Plan* could include strategies in this subject area.

Service Objective:

Retrofit state highway facilities as appropriate to reduce existing environmental impacts.

Chapter 6 of this Route Development Plan discusses environmental issues at a screening level analysis.

Chapter 2 Highway Location, Classification and Function

2.1 Highway Location and Route Overview

City of Sumner

SR 162 begins at the interchange with SR 410 in the City of Sumner located in north central Pierce County. The actual beginning of SR 162 is at the north pavement seat of the SR 410 over-crossing structure. From this diamond type interchange, SR 162 heads south as a two lane highway. In the short segment from milepost 0.11 to milepost 0.31, a center two-way left-turn lane has been provided. The route leaves the City of Sumner at milepost 0.53, as it crosses over the Puyallup River bridge.

Pierce County

At this point the highway continues in a southerly direction and the speed limit increases from 35 m.p.h. to 50 m.p.h. The highway meanders through the Carbon River and Puyallup River valleys of Pierce County for several miles as it travels through the local areas known as Alderton and McMillin. Some of the major county roads that intersect SR 162 in this area include 96th Street East, at milepost 3.95; Military Road at milepost 5.35; and 128th Street East at milepost 6.11. Many recent housing developments are encountered along the route between the Cities of Sumner and Orting. The route crosses over the Puyallup River again at milepost 6.85 on what is known as the McMillin Bridge. This narrow, two lane structure is on the National Register of Historic Places. Completed in 1934, its 210 foot span was the longest reinforced concrete truss or beam span in the United States.

City of Orting

Leaving the Puyallup River in McMillin, SR 162 continues on as a 50 mph two lane facility, traversing a southeasterly course toward the City of Orting at highway milepost 8.06. As the highway enters the business and commercial district of Orting, the speed limit reduces to 25 mph and the alignment encounters several sharp horizontal curves. A major cross street in the City is Calistoga Street at milepost 9.54. This arterial provides a link with communities south and west of Orting such as Graham and Kapowsin. Leaving the commercial area of Orting the route continues as a two lane highway.

Pierce County

Through highway mile ten, SR 162 leaves the City of Orting, intersects with another local arterial, Orville Road, and the speed limit increases to 50 mph. After the Orville Road intersection, the route changes its course to a northeasterly direction for approximately six miles toward the Town of

South Prairie. Through this rural farmland section, SR 162 crosses over several creeks, the Carbon River, and under the abandoned BNRR bridge which now serves nonmotorized travelers. As motorists negotiate some of these bridges, they encounter a horizontal alignment that presents them with reverse curves.

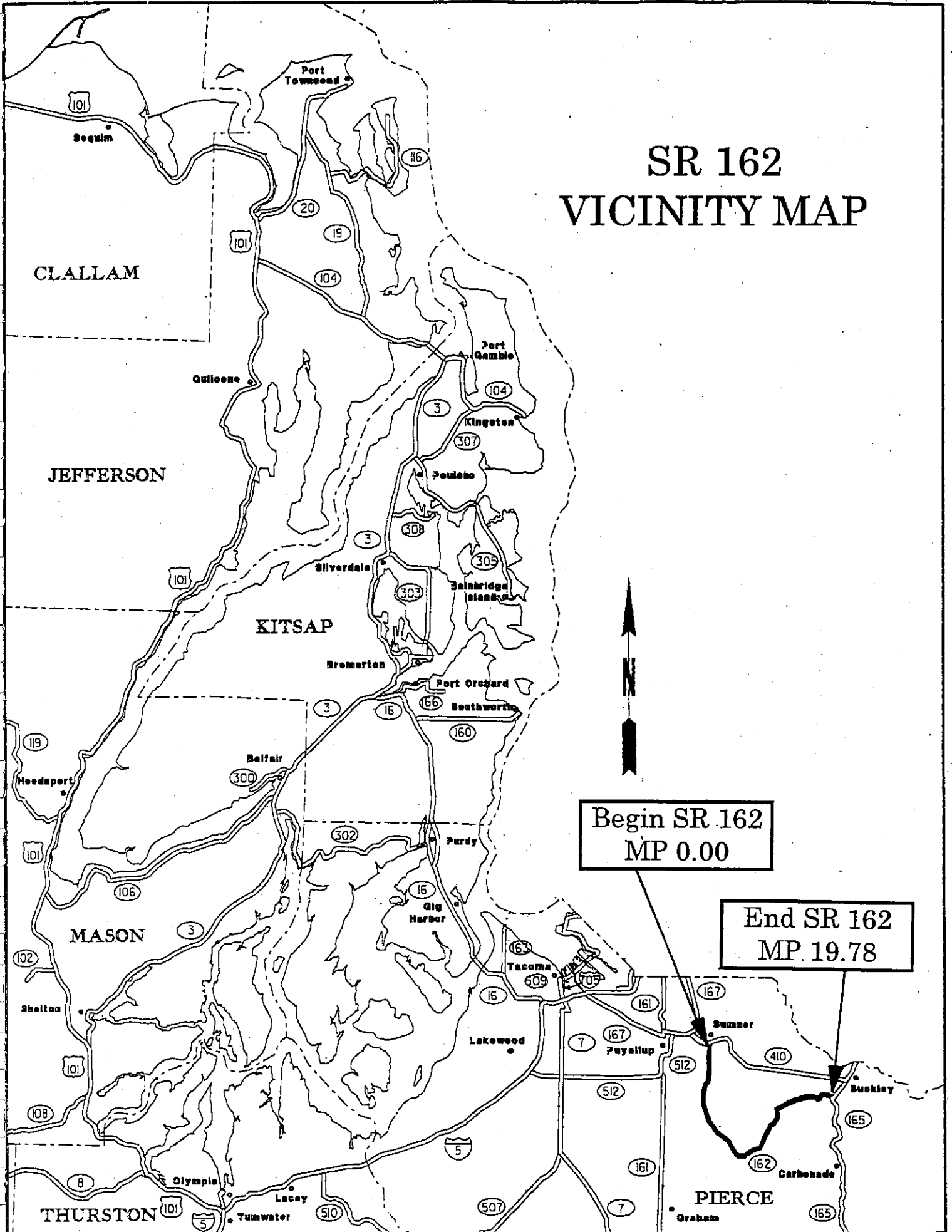
Entering the Town of South Prairie, through highway mile 17, the speed limit is reduced to 30 mph. There are a couple of arterial intersections in South Prairie that provide connections to Wilkeson, to the south, and to Bonney Lake in the northwest. These are Emery Avenue and South Prairie Road, at mileposts 17.44 and 17.76 respectively.

The highway leaves the Town of South Prairie at milepost 17.78. It continues as a two lane highway, signed at 50 mph to its end, at milepost 19.78. Here the highway intersects State Route 165, where motorists have the option of traveling north several miles to the City of Buckley, or south to Wilkeson or to Mount Rainier National Park.

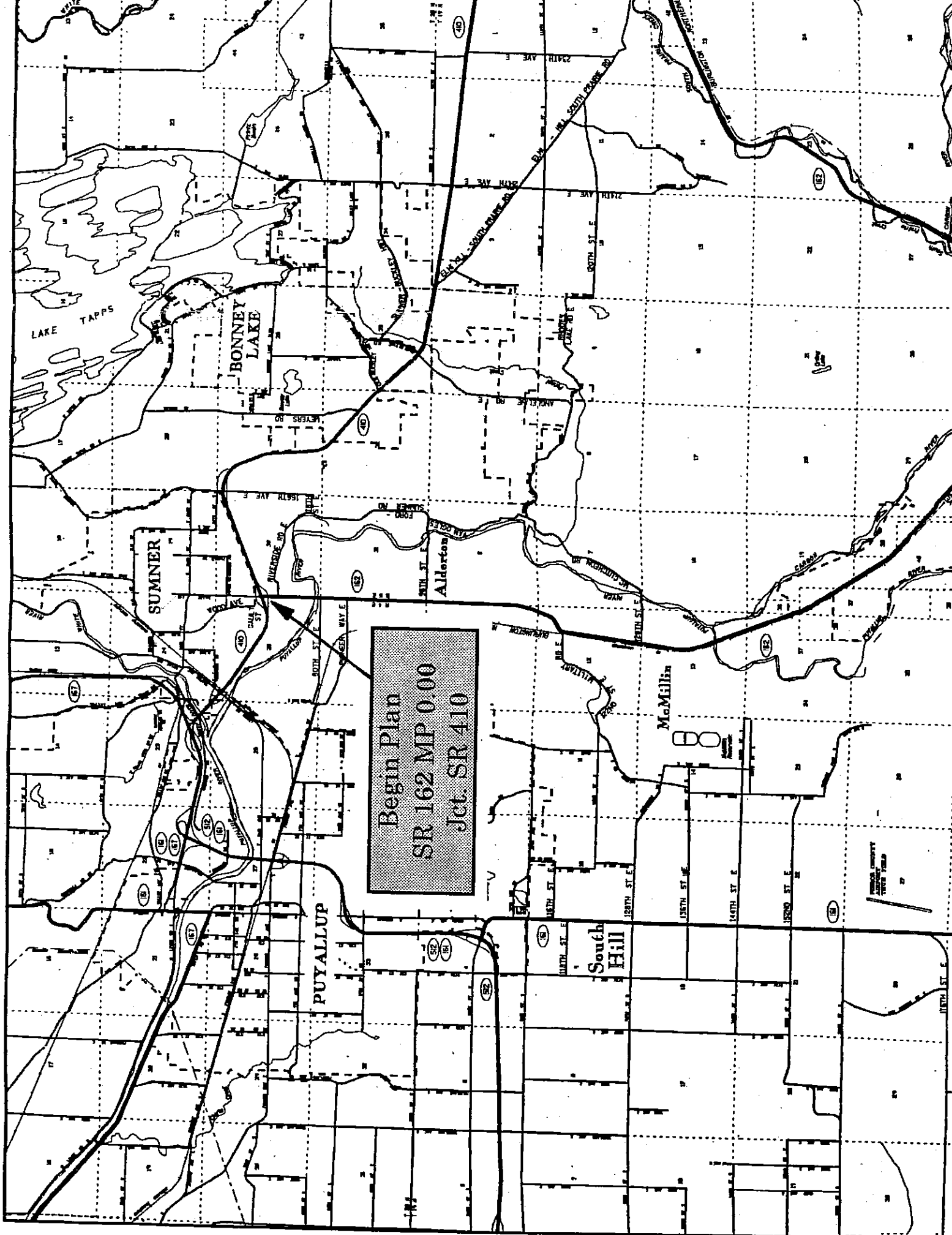
2.2 Character of Traffic

SR 162 is a major traffic corridor for local and regional traffic traveling between north central Pierce County and the City of Tacoma. The majority of vehicles traveling on SR 162 are commuters. The development growth rate along this corridor in recent years has been relatively high, consisting mainly of new housing developments. Traffic volumes are anticipated to continue to grow at a steady rate. More highway improvements will be needed as more developments such as shopping centers, service centers, manufacturing, single and multi-family residences and highway oriented businesses are established in the future. The route is also used for recreational travel, such as providing indirect connections to destinations like Mount Rainier National Park via SR 165.

SR 162 VICINITY MAP



Begin Plan
SR 162 MP 0.00
Jct. SR 410



2.3 The Local Urban Network and Related Facilities

State Route 162 is a major collector arterial in the central Pierce County regional network of roads. State Route 162 provides a semi-loop route in the Puyallup and Carbon River Valleys. State route 162 begins at SR 410 in Sumner. Traversing south, it leaves the Tacoma Urbanized area boundary at the Puyallup historical bridge in McMillin. SR 162 then meanders back to SR 410 via SR 165 at the City of Buckley. This connectivity is vital for efficient and direct transportation into and out of the city of Orting, and the Town of South Prairie. SR 410 lies several miles north of SR 162, providing another, more heavily traveled east-west link. To the west of SR 162 lies SR 161. This route serves traffic traveling in a north-south pattern from the SR 7 in the south to points north such as SR 512 in the City of Puyallup. The westerly connections to SR 161 from SR 162 are made through county roads such as Military Road and the Orting-Kapowsin Highway. Many of these state routes provide connections to other major state routes such as SR 512, SR 167, SR 18, and Interstate 5 and are increasingly experiencing higher levels of traffic.

In addition to the network of state highways, there are many city and county roads in this region. Other local roadway connections and improvements to existing local arterials are vital to provide travel choices within Pierce County, and to offset the high demand for increased capacity on SR 162.

The region which includes SR 162 from Sumner to Orting, and sections along SR 410, near Bonney Lake, is fast becoming a bedroom community for mid to high income families. To accommodate this influx of people, Pierce County plans to improve county roads and possibly provide new facilities linking to the state routes 162 and 410. The following is a brief inventory of some of Pierce County's plans to improve existing routes in the vicinity of SR 162:

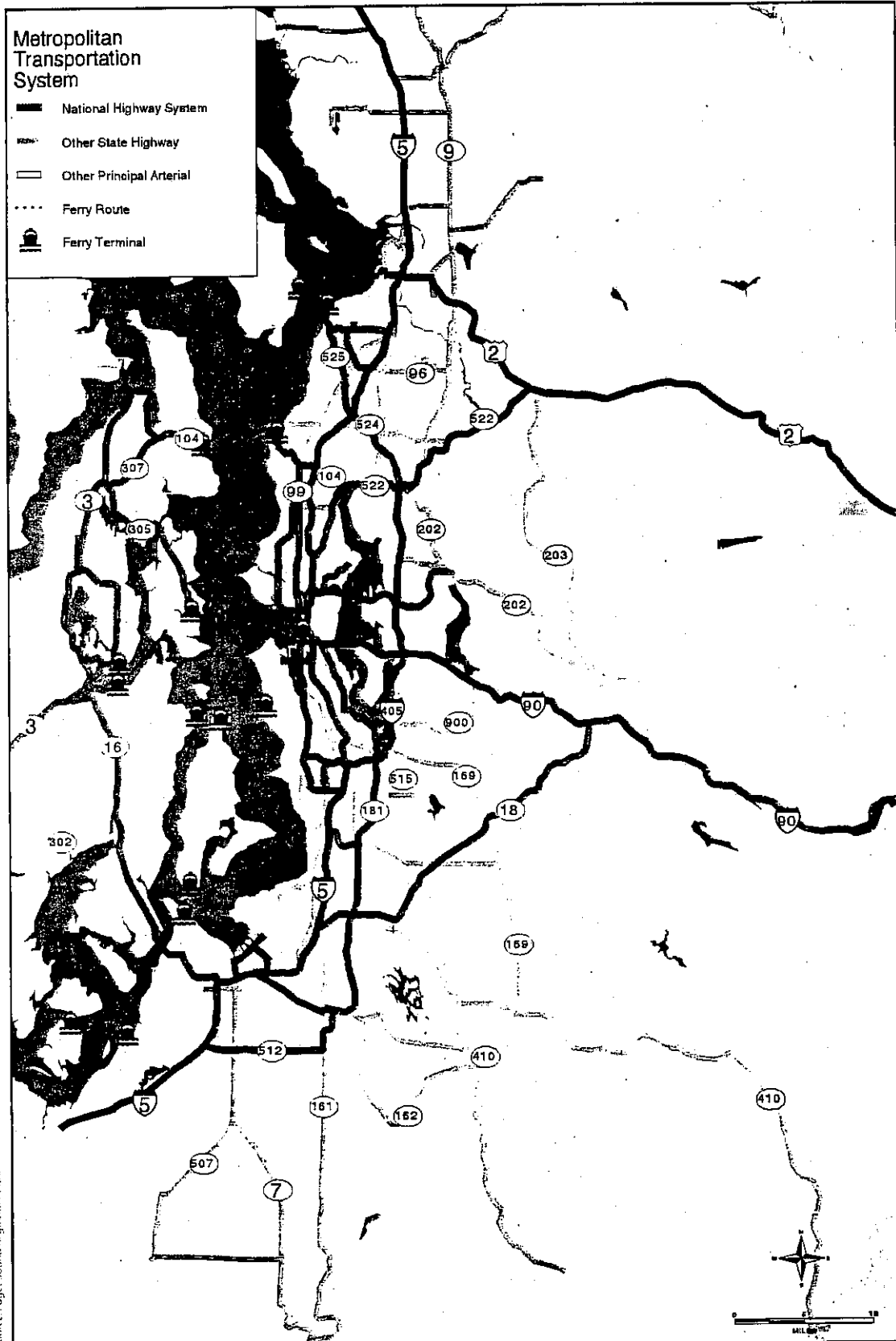
- **Shaw Road East** - This proposed project includes improvement to the existing facility, a new arterial from Pioneer Way E to Main Avenue E, and establishment of an arterial corridor from SR 410 to Orting-Kapowsin Highway East. This project is included in the Pierce County Transportation Plan (September, 1992) and classified as premier priority project.
- **Further improvements to Rhodes Lake Road** and its connection to 98th Street East and to 128th Street East will improve the easterly connection to SR 162.
- **Improvements to Military Road to Shaw Road** and back to 128th Street East all the way to SR 7 will add another, East-West link to the network.

- **The planned 176th Street East easterly extension** from SR 161 to the City of Orting, if constructed, will likely offset travel demands on SR 161 and SR 162. This improvement would provide a much needed east-west connection in this region.
- **Cross Base Highway** - This proposed project includes building a new arterial that will connect 176th Street E/SR 7 with I-5. This is included in the Pierce County Transportation Plan (September, 1992) and classified as premier priority project. This will provide a direct route for I-5 south bound vehicles, easing the traffic congestion on SR 162 between 176th Street E and SR 512.

2.4 Metropolitan Transportation System

The map on the following page is taken from the Puget Sound Regional Council's *Metropolitan Transportation Plan*, dated May, 1995. It depicts the significant highways in the region's current Metropolitan Transportation System (MTS). The MTS is comprised of regionally significant infrastructure and services which serve regional transportation functions. It can be seen from the map that SR 162, identified as "Other State Highway", does provide an important link of regional significance. The MTS includes both transportation facilities and services which provide regionally significant travel opportunities to facilitate access to locations and activities crucial to the social and economic health of the central Puget Sound region.

Freeway, Other State Highway, Arterial and Ferry Components – Existing System



2.5 Route Classifications

Federal Functional Class

According to the Functional Classification of Public Roads National Classifications Map (approval date 04-01-93), SR 162 has the following classifications:

- SR 162 is classified as a Minor Arterial from its beginning at milepost 0.00 to the McMillin Puyallup River Bridge (Tacoma Urban Area Boundary), approximate milepost 6.81.
- SR 162 is classified as a Major Collector from the McMillin Bridge to its end at milepost 19.78 (Jct. SR 165).

This route development plan recommends no change to the functional classifications identified in the *Functional Classification of Public Roads National Classifications Map, March 1993*.

State Functional Class

In the State Functional Class system, SR 162 is classified as an Urban-Collector from its beginning to MP 6.83. From MP 6.83 to the end of SR 162, the route is classified as an Rural-Collector.

National Highway System Status

SR 162 is not included in the National Highway System.

Freight and Goods Transportation System Status

SR 162 is identified as a "T3" route in the Statewide Freight and Goods Transportation System, meaning that 300,000 to 5,000,000 freight tons are transported over this route annually. The SR 162 Steering Committee mentioned that this needs to be reevaluated, that perhaps a "T2" designation is more realistic for SR 162.

The Washington State Transportation Commission was directed by the 1993 Legislature to identify and designate a freight and goods transportation system (FGTS).

The FGTS was developed in cooperation with cities, counties, and regional transportation organizations. The present system consists of 6,600 miles of state highways, 9,100 miles of county roads, and 900 miles of city streets. Overall, 94 percent of the state highways, 22 percent of county roads, and 8 percent of city streets are on the system. Roads on the FGTS have designated classifications ranging from "T1" to "T5". Routes with a "T1"

designation carry the most annual freight tonnage (over 10,000,000 tons) and "T5" routes carry the least annual tonnage (equivalent to 100,000 tons per year).

While the FGTS is in essence a current inventory, the system is dynamic and periodic reviews and revisions will be needed. The forces of economic growth and change can bring about a need to add or delete routes or to change route tonnage classifications.

Scenic and Recreational Highway System Status

Presently SR 162 is not designated by WSDOT as one of Washington's Scenic and Recreational Highways.

Roadside Classification Plan

This class system refers to the roadside of the State route. The roadside encompasses the area between the roadway pavement edge and right-of-way boundaries. Roadside character is a description of the roadside landscape from the roadway user's perspective. It describes what you see along the road as you travel it. The following sections of SR 162 are shown with their existing class of roadside.

Milepost	Character Classification
0.00 to 8.48	RURAL
8.48 to 10.38	SEMI-URBAN - Alderton
10.38 to 19.78	RURAL

Refer to Section 3.5 for additional information on the Roadside Classification Plan.

Access Management Plan Classifications

Background on the Access Management Plan

Access management is a technique for protecting the carrying capacity of highways and improving highway safety. It accomplishes these goals by minimizing disruptions to through traffic by eliminating unnecessary driveways and spacing them apart, managing the roadway median, spacing traffic signals, and managing turning traffic, as well as other measures.

The Washington State Legislature passed a law called "Highway Access Management", R.C.W. Chapter 47.50, in 1991. This law required the Department of Transportation to develop two sets of rules to be included in the Washington Administrative Code (WACs). The first set of rules created an orderly application process for gaining access from private property to state highways and established access permit fees. The second set of rules established a set of five classifications for non-limited access highways. Access is controlled in one of two ways: by limiting it through the purchase of access rights or by managing it. A freeway is an example of a fully limited-access highway. Some highways are partially limited with access rights having been purchased for parts of the roadway, restricting access, but not limiting it to ramps as with freeways. Managing access is a way of limiting access in a more flexible way that is also less costly to taxpayers.

The five access management classifications that have been assigned to state highways reflect different highway environments. Factors that were considered in developing the classifications are: traffic volume, speed limit, adjacent land use, functional classification, existing access density, and safety. Typical characteristics of the five classifications are provided at the end of this section.

Access Management Plan for SR 162

The steering committee members for this Route Development Plan understand the present *Access Management Plan (AMP)* classifications, its associated typical restrictions, and the importance of practical access management for SR 162.

The Steering Committee recommended changes to some of the present access management classifications. These changes are due to highway character such as speed limit, existing private road approaches, and land uses.

Table 2.5-1 summarizes the existing and proposed *Access Management Plan* classifications for State Route 162.

**Table 2.5-1: SR 162 WSDOT Access Management Plan
SR 410 Interchange to Jct. SR 165**

Section Description	Length (miles)	Access Classification	Speed Limit	Land Use	Recommended Class Changes
Sumner, Jct. SR 410 Begin SR 162 (MP 0.00 to MP 0.10)	0.10	Full Control	35	N/A	None
Sumner, Jct. SR 410 to Sumner South City Limits/Puyallup River (MP 0.10 to MP 0.53)	0.43	Class 3	35	Residential	None
Sumner SCL to Orting NCL (MP 0.53 to MP 9.23)	6.41	Class 3	35/50	Res / Comm	Class 2
Orting NCL to ECL (MP 9.23 to MP 10.34)	1.11	Class 4	25/35	Res / Comm	None
Orting ECL to Orville Rd Vic (MP 10.34 to MP 11 Vic)	0.56	Class 3	50	Res / Agri	None
Orville Rd Vic to South Prairie WCL (MP 11 Vic to MP 17.25)	6.25	Class 3	50	Res / Agri	Class 2 *
South Prairie WCL to ECL (MP 17.25 to MP 17.78)	0.53	Class 4	30	Res / Comm	None
South Prairie ECL to Jct SR 165 (MP 17.78 to MP 19.78)	2.00	Class 3	50	Residential	Class 2 *

Source: WSDOT Access Management Plan.

* Note: Segments east of Milepost 10.97 (Orville Road) have been determined to not need additional lanes for the next 20 years, meaning that these two-lane segments would not require any median separations.

The following page provides a brief description of the characteristics of the five different access classifications in the *WSDOT Access Management Plan*.

The *WSDOT Access Management Plan* typical roadway sections are also provided on the following pages. These typical roadway sections were used as a guide to aide the Steering Committee in making recommendations regarding mobility improvements (see Chapter 5 of this RDP).

For additional information regarding the *WSDOT Access Management Plan*, consult Chapter 468-52 of the Washington Administrative Code and Chapter 47.50 of the Revised Code of Washington.

ACCESS MANAGEMENT PLAN CLASSIFICATIONS TYPICAL CHARACTERISTICS

CLASS 1 MULTILANE FACILITY

- High speed, high traffic volumes, long trips
- Median barrier typically used
- Planned intersection spacing = 1 mile
- Minimum private connection spacing = 1320 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

CLASS 2 MULTILANE FACILITY

- Medium to high speeds, medium to high traffic volumes, medium to long trips
- Median barrier typically used
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 660 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

CLASS 3 MULTILANE FACILITY

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Median constructed of curbed asphalt or landscaped traffic islands. A Center two-way left-turn lane may be used as special conditions warrant.
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 330 feet

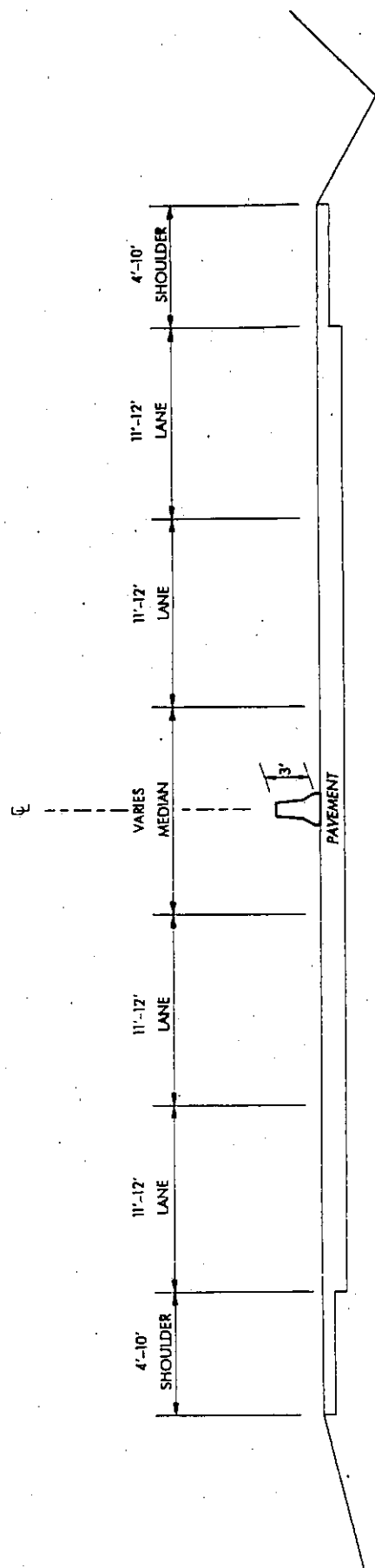
CLASS 4 MULTILANE FACILITY

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Two way left turn lane is used
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 250 feet

CLASS 5 MULTILANE FACILITY

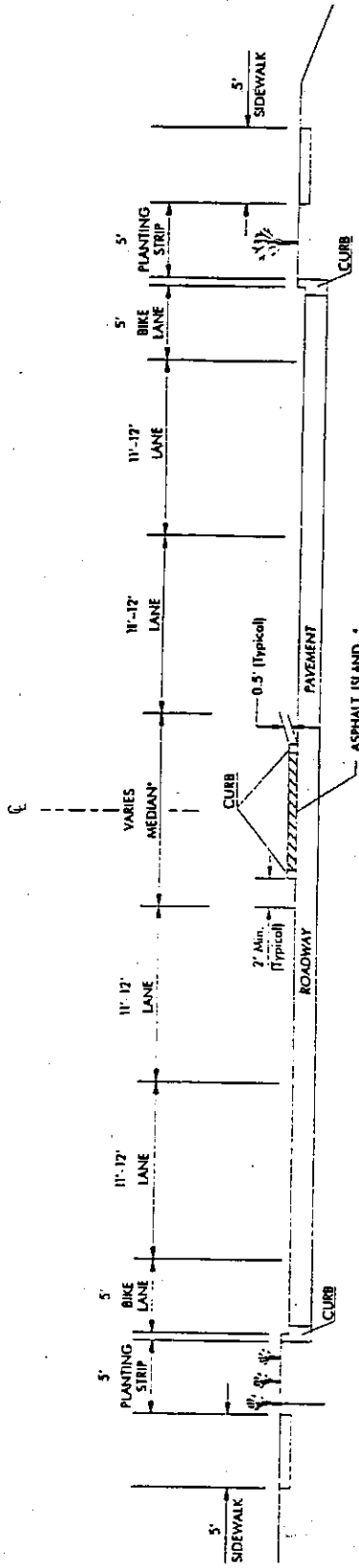
- Low to moderate speeds, moderate to high traffic volumes, short trips
- Highest service to land access
- Planned intersection spacing = 1/4 mile
- Minimum private connection spacing = 125 feet

CLASS 1 & 2 MULTILANE FACILITY



Restricted Median Design Using Concrete Barrier
Preferred on facilities with a posted speed greater than 40 mph

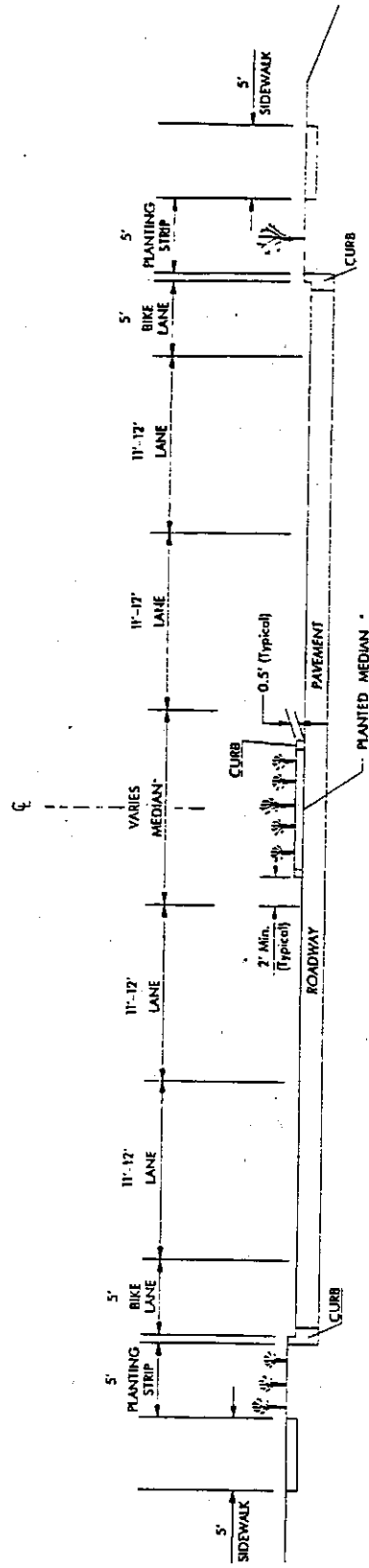
CLASS 3 MULTILANE FACILITY



*Restricted Median Design With An Asphalt Island
Preferred on urban area facilities with a
posted speed of 40 mph or less*

- Two-way left-turn lane may be utilized where special conditions warrant.

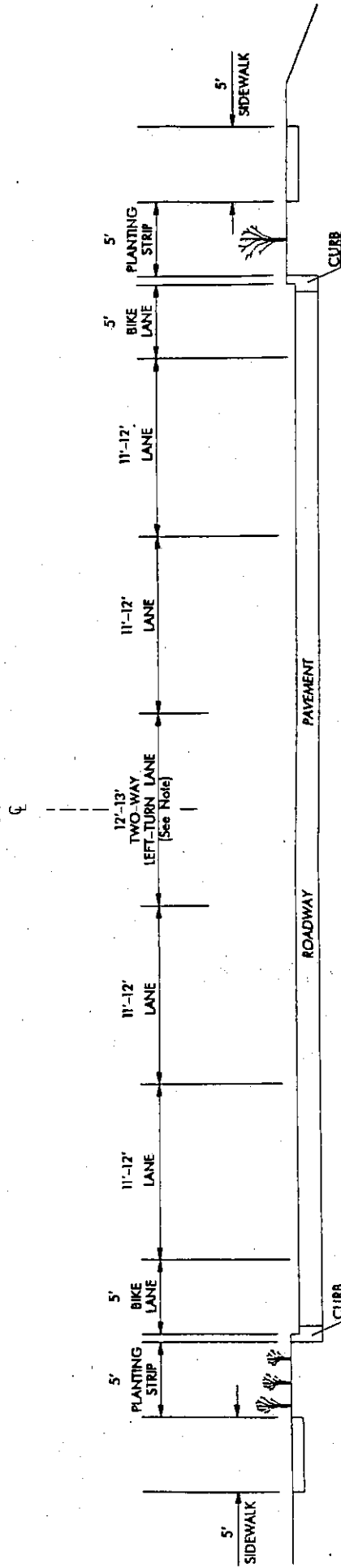
CLASS 3 MULTILANE FACILITY ALTERNATE



*Restricted Median Design With A Landscaped Median
Preferred on urban area facilities with a
posted speed of 40 mph or less*

- Two-way left-turn lane may be utilized where special conditions warrant.

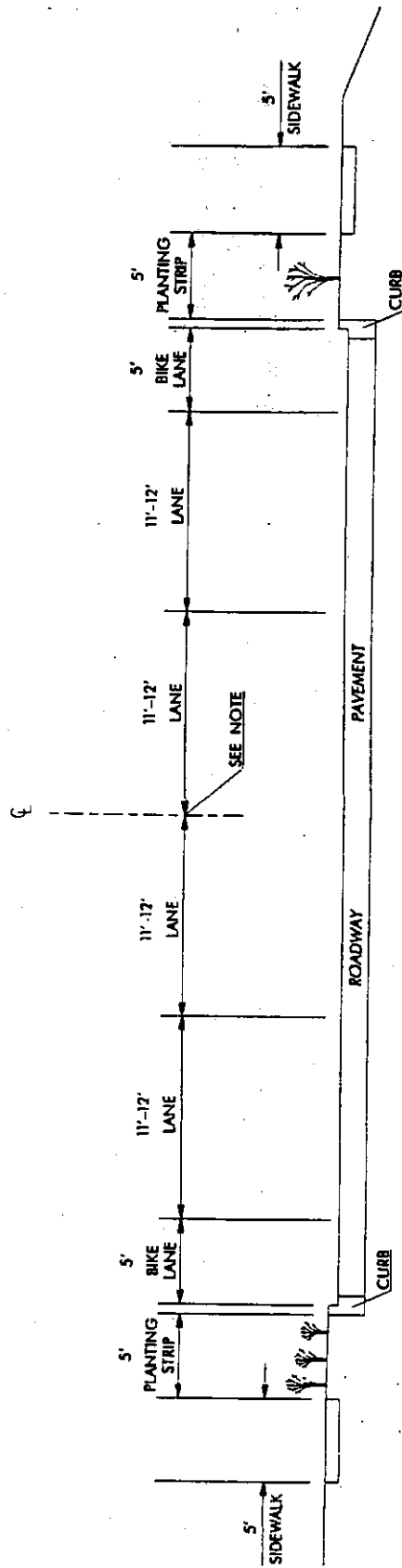
CLASS 4 MULTILANE FACILITY



*Two-Way Left-Turn Design
For urban area facilities with a
posted speed of 35 mph or less*

*NOTE: A restrictive median may be used if
operational conditions warrant to
mitigate turning, weaving, and
crossing conflicts.*

CLASS 5 MULTILANE FACILITY



For Urban Areas with a posted speed of 35 mph or less

NOTE: A two-way left-turn lane may be used where turning volumes warrant.

3.1 Existing Right-of-Way

The existing right-of-way for State Route 162 is presented in Table 3.1-1 below. Typically SR 162 has 30 feet of right-of-way each side of the highway centerline. This provides a 60 foot wide corridor, which is likely not enough space for constructing additional lanes recommended in Chapter 5 of this RDP.

Table 3.1-1:

SR 162 Existing Right-of-Way, SR 410 to SR 165

Section Description	R/W Left of centerline (feet)	R/W Right of centerline (feet)
Included in SR 410 Right Of Way MP 0.00 to MP 0.09		
MP 0.09 to MP 0.11	30	30
MP 0.11 to MP 0.13	77	30
74th ST E Vic. MP 0.13 to MP 0.18	30	30
River Grove Drive Vic. to Puyallup River Br. MP 0.18 to MP 0.81	20	30
Bowman Hilton Rd. Vic. MP 0.81 to MP 0.83	Varies 20 to 55	Varies 30 to 55
EQUATION: MP 0.83 Back = MP 3.21 Ahead		
MP 3.21 to MP 3.24	Varies 55 to 30	Varies 55 to 30
Bowman Hilton Rd. Vic. to Military Rd. Vic MP 3.24 to MP 5.15	30	30
MP 5.15 to MP 5.53	Varies 30 to 115	Varies 30 to 54
Military Rd. Vic. to Puyallup River Historical Br. Vicinity MP 5.53 to MP 7.36	30	30
MP 7.36 to MP 7.46	50	30
149th St. Ct. E Vicinity MP 7.46 to MP 7.67	30	30
MP 7.67 to MP 7.77	40	40
MP 7.46 to MP 8.59	30	30
Old Pioneer Way Vicinity MP 8.59 to MP 8.77	40	30
Old Pioneer Way to Kansas Ave. MP 8.77 to MP 9.99	Varies 30 to 40	Varies 30 to 40
Kansas Ave. to Voights Creek Vicinity MP 9.99 to MP 11.36	30	30

Source: WSDOT ROW Plans

Table 3.1-1 (cont.):

SR 162 Existing Right-of-Way, SR 410 to SR 165

Section Description	R/W Left of centerline (feet)	R/W Right of centerline (feet)
Voights Creek Vicinity MP 11.36 to MP 11.80	Varies 30 to 340	Varies 50 to 110
Voights Creek Vic. to Patterson Rd. Vic. MP 11.80 to MP 12.89	30	30
Patterson Rd. Vic. to S. Pioneer Way Vic. MP 12.89 to MP 13.31	50	50
S. Pioneer Way Vicinity MP 13.31 to MP 13.80	30	30
Prairie Rd. Vicinity MP 13.80 to MP 14.06	Varies 30 to 50	Varies 30 to 55
MP 14.06 to MP 14.96	30	30
Vicinity Kaperak Rd. MP 14.96 to MP 15.70	Varies 30 to 90	Varies 30 to 80
MP 15.70 to MP 16.06	Varies 30 to 55	30
Town of South Prairie Vic. MP 16.06 to MP 17.86	Varies 30 to 75	Varies 75 to 88
Vicinity of South Prairie to SR 165 MP 17.86 to MP 19.78 (SR, 165 connection)	30	30

Source: WSDOT ROW Plans

3.2 Existing Surface Geometrics

Information regarding the configuration of existing lanes and shoulders is provided in the following two tables. Descriptions include dimensions of lanes, shoulders, and sidewalks and lane functions such as General Purpose (GP), passing or climbing, Two-way Left-turn Lane (TWLTL), etc. There are no High Occupancy Vehicle (HOV) Lanes established or planned for State Route 162. Milepost locations are used to identify where significant changes occur, such as the number of existing lanes, or where any other significant change in the geometry occurs. The information is presented to represent the conditions along SR 162 in a general sense. For a thorough listing of all geometric conditions, refer to the most current WSDOT *State Highway Log*.

Table 3.2-1:
SR 162 Existing Surface Geometrics, SR 410 to SR 165

Section Description	Traffic Lanes (number of, type & dimensions)	Shoulders & Sidewalks (dimensions)
MP 0.00 to MP 0.11	2 @ 11' through lanes 1 @ 11' LTL	2' paved shoulders
MP 0.11 to MP 0.31	2 @ 11' through lanes 1 @ 11' TWLTL	6' & 8' paved shoulders
MP 0.31 to MP 0.51	2 @ 11' through lanes	6' & 8' paved shoulders
Puyallup River Bridge MP 0.51 to MP 0.56	2 @ 11' through lanes	2' paved shoulders, 4' sidewalk on right
MP 0.56 to MP 4.30	2 @ 11' through lanes	6' paved shoulders
MP 4.30 to MP 5.35	2 @ 11' through lanes	4' paved shoulders
MP 5.35 to MP 6.81	2 @ 11.5' through lanes	3' paved shoulders
MP 6.81 to MP 6.85	2 @ 11' through lanes	4' sidewalk both sides
MP 6.85 to MP 9.44	2 @ 11' through lanes	4' paved shoulders
MP 9.44 to MP 9.73 In City of Orting	2 @ 11' through lanes	8' paved shoulders for parking
MP 9.73 to MP 9.80	2 @ 11.5' through lanes	1' & 3' paved shoulders
MP 9.80 to MP 9.99	2 @ 11.5' through lanes	2' paved shoulders
MP 9.99 to MP 10.93	2 @ 11.5' through lanes	3' paved shoulders
MP 10.93 to MP 11.01	2 @ 12' through lanes	4' paved shoulders
MP 11.01 to MP 11.49	2 @ 11' through lanes	3' paved shoulders
MP 11.49 to MP 11.51	2 @ 11' through lanes	Bridge-No Shoulders

Source: WSDOT *State Highway Log*, 1996

Table 3.2-1 (cont.):**SR 162 Existing Surface Geometrics, SR 410 to SR 165**

Section Description	Traffic Lanes (number of, type & dimensions)	Shoulders & Sidewalks (dimensions)
MP 11.51 to MP 11.53	2 @ 11' through lanes	1' paved shoulders
MP 11.53 to MP 11.95	2 @ 11' through lanes	3' paved shoulders
MP 11.95 to MP 12.10	2 @ 11' through lanes	2' paved shoulders
MP 12.10 to MP 12.59	2 @ 11' through lanes	2' paved shoulders
MP 12.59 to MP 13.09	2 @ 11' through lanes	3' paved shoulders
MP 13.09 to MP 13.19	2 @ 12' through lanes	4' paved shoulders
MP 13.13 to MP 13.23 (Carbon River Bridge)	2 @ 12' through lanes	4' paved shoulders
MP 13.23 to MP 13.97	2 @ 12' through lanes	4' paved shoulders
MP 13.97 to MP 14.01 (South Prairie Creek Bridge)	2 @ 12' through lanes	4' paved shoulders
MP 14.01 to MP 15.05	2 @ 12' through lanes	3' paved shoulders
MP 15.05 to MP 15.15	2 @ 12' through lanes	4' paved shoulders
MP 15.15 to MP 15.19 (South Prairie Creek Bridge)	2 @ 12' through lanes	4' paved shoulders
MP 15.19 to MP 15.55	2 @ 12' through lanes	3' paved shoulders
MP 15.55 to MP 15.59 (South Prairie Creek Bridge)	2 @ 12' through lanes	4' paved shoulders
MP 15.59 to MP 15.95	2 @ 12' through lanes	3' paved shoulders
MP 15.95 to MP 15.99 (South Prairie Creek Bridge)	2 @ 12' through lanes	4' paved shoulders
MP 15.99 to MP 17.44	2 @ 12' through lanes	3' paved shoulders
MP 17.44 to MP 17.70	2 @ 12' through lanes	4' paved shoulders
MP 17.70 to MP 17.72 (South Prairie Creek Bridge)	2 @ 12' through lanes	1' paved shoulders
MP 17.72 to MP 19.64	2 @ 12' through lanes	3' paved shoulders
MP 19.64 to MP 19.68 (South Prairie Creek Bridge)	2 @ 12' through lanes	No shoulders
MP 19.68 to MP 19.78	2 @ 12' through lanes	2' paved shoulders

Source: WSDOT State Highway Log, 1996

3.3 Bridge and Structure Inventory

Information regarding existing bridges along SR 162 was provided by the WSDOT Bridge and Structures Office. The right column in Table 3.3-1 indicates the existing strategies for these structures.

Table 3.3-1: SR 162 Bridge and Structure Inventory

Bridge Number Bridge Name Mile Post	Span Type	Length (feet)	Width (feet)	Year Built (rebuilt)	System Plan Strategy *
162 / 2 SR 410 O-xing MP 0.01	PCB	238	42	1967 (1992)	Seismic- Super/Substructure
162 / 4 Puyallup River MP 0.51	PCB	232	26	1973	
162 / 6 Puyallup River MP 6.81	CURT CAB	210	22	1934	Replace-Old/Narrow (Bridge is listed in Historic Register)
162 / 11 Voights Creek MP 11.49	TALL	78	22	0 (1953)	Replace-Priority Array
162 / 13 BAN RR U-XING (NP) Crocker MP 13.00	SG	133		1957	
162 / 14 Carbon River MP 13.19	PCB	222	32	1971	
162 / 15 South Prairie Creek MP 13.97	PCB	250	32	1969	
162 / 16 South Prairie Creek MP 15.15	PCB	227	32	1969	
162 / 17 South Prairie Creek MP 15.55	PCB	225	32	1969	
162 / 18 South Prairie Creek MP 15.95	PCB	217	32	1969	
162 / 20 South Prairie Creek MP 17.70	CBOX	120	26	1956	Deck Overlay
162 / 22 BN RR O-XING (NP) MP 19.64	CBOX	226	20	1936	Replace-Old/Narrow Seismic-Substr

*System Plan Data Received from WSDOT Bridge and Structures Office, Bridge Planning and Technology Section, 5/24/95. System Plan Descriptions subject to change.

3.4 Existing Horizontal and Vertical Alignment

Using the data from the TRIPS system, the horizontal and vertical alignments of the subject area of this route development plan were examined. The vertical alignment grades range from -3% to +6%. The minimum and maximum vertical curve lengths used are 50 ft and 500 ft. For the horizontal alignment, the curve radii range from 573 ft to 7640 ft, with the lengths of curves ranging from 186 ft to 1836 ft.

The composite grade analysis portion of the Highway Capacity Manual program was utilized to determine the speed of a typical truck (200 lb/hp) on different segments of SR 162. Truck speeds have been found to be within acceptable limits of the posted speeds on the whole route of SR 162, except for a short eastbound segment between Lower Burnett Road East and Mundy Loss Road, MP 18.92 to 19.31. On this segment of the highway, the average vertical grade is more than 4%, causing truck speeds to drop 15 mph below the speed limits which satisfies the speed reduction warrant for a climbing lane. The 1996 directional design hour volume on the section is more than 200 vehicles containing more than 20 heavy vehicles, satisfying the level of service warrants. The two warrants for a climbing lane are therefore satisfied.

Notes to WSDOT Designers

Figures 440-1c and 440-1d of the WSDOT Design Manual show the geometric design data for minor arterial and collector. The recommended vertical grade is either 4%, 6%, 7%, or 9% depending on the type of facility, location (rural or urban), minimum design speed, design hour volume in design year, and terrain. All the existing vertical grades meet the standards.

Figure 640-13b "Superelevation Rate (6% Max)" of the WSDOT Design Manual shows how the radius of a horizontal curve varies with the superelevation rate given the design speed. Using the 50 mph design speed curve, the graph recommends a radius of 836 feet with 0.06 superelevation rate and radius of 5744 feet with 0.02 superelevation rate. The minimum curve radius for a normal crown section is 10,500 feet. The superelevation rates of the curves are not available at the time of this study. Assuming that these curves have a 6% superelevation rate, still most horizontal curves do not conform to standards.

Realignment strategies are proposed (see Chapter 5, Safety Strategies) to improve the alignments in areas identified as potential run-off-the-road locations.

The vertical and horizontal alignments are summarized in the following series of tables. Non standard sections are shaded.

Table 3.4-1:**Vertical Alignment - Existing Grades by Milepost****(Grade is for Eastbound vehicles, reverse the sign for Westbound.)**

Approximate Milepost	Approximate Grade
MP 0.00 to 6.81: Classified as Minor Arterial	
Within Urban Area	
0.00 to 6.78	-1.00 % to +1.00 %
6.78 to 6.82	+1.83 %
MP 6.81 to 19.78: Classified as Major Collector	
Within Rural Area	
6.82 to 6.83	+3.58 %
6.83 to 7.25	-1.00 % to +1.00 %
7.25 to 7.29	+1.06 %
7.29 to 7.35	-1.00 % to +1.00 %
7.35 to 7.36	+1.14 %
7.36 to 7.38	+1.06 %
7.38 to 8.73	-1.00 % to +1.00 %
8.73 to 8.81	+1.87 %
8.81 to 10.63	-1.00 % to +1.00 %
10.63 to 10.70	+1.08 %
10.70 to 10.93	-1.00 % to +1.00 %
10.93 to 10.95	+2.44 %
10.95 to 11.44	-1.00 % to +1.00 %
11.44 to 11.48	-2.00 %
11.48 to 11.53	-1.00 % to +1.00 %
11.53 to 11.55	-3.00 %
11.55 to 11.59	-1.00 % to +1.00 %
11.59 to 11.65	+1.50 %
11.65 to 12.20	-1.00 % to +1.00 %
12.20 to 12.28	+2.00 %
12.28 to 12.39	+1.33 %
12.39 to 12.45	-1.00 % to +1.00 %
12.45 to 12.71	+1.11 %
12.71 to 12.79	-1.00 % to +1.00 %
12.79 to 12.86	+2.20 %
12.86 to 13.02	-1.00 % to +1.00 %
13.02 to 13.09	+3.65 %
13.09 to 13.12	+3.55 %
13.12 to 13.16	+3.72 %
13.16 to 13.20	+1.65 %
13.20 to 13.24	-1.00 % to +1.00 %
13.24 to 13.31	-2.55 %

Source: WSDOT TRIPS System Horizontal and Vertical Alignment Report, 05/16/95

Table 3.4-1 (cont.):**Vertical Alignment - Existing Grades by Milepost**

Approximate Milepost	Approximate Grade
13.31 to 13.85	-1.00 % to +1.00 %
13.85 to 13.95	+1.73 %
13.95 to 14.02	-1.00 % to +1.00 %
14.02 to 14.10	-1.81 %
14.10 to 15.02	-1.00 % to +1.00 %
15.02 to 15.13	+1.80 %
15.13 to 15.17	+2.04 %
15.17 to 15.31	-1.70 %
15.31 to 15.41	-1.00 % to +1.00 %
15.41 to 15.52	+2.35 %
15.52 to 15.57	+1.90 %
15.57 to 15.69	-1.40 %
15.69 to 15.88	-1.00 % to +1.00 %
15.88 to 15.91	+1.75 %
15.91 to 15.95	+3.75 %
15.95 to 16.03	-1.00 % to +1.00 %
16.03 to 16.06	+1.44 %
16.06 to 17.30	-1.00 % to +1.00 %
17.30 to 17.39	+1.00 %
17.39 to 17.45	+1.60 %
17.45 to 17.77	-1.00 % to +1.00 %
17.77 to 17.89	+3.82 %
17.89 to 17.91	+4.07 %
17.91 to 17.97	+4.53 %
17.97 to 18.00	+5.40 %
18.00 to 18.07	+6.00 %
18.07 to 18.09	+3.00 %
18.09 to 18.37	-1.00 % to +1.00 %
18.37 to 18.50	+3.51 %
18.50 to 18.55	+3.00 %
18.55 to 18.62	-1.00 % to +1.00 %
18.62 to 18.76	+3.84 %
18.76 to 18.87	+3.52 %
18.87 to 19.04	+4.84 %
19.04 to 19.17	+4.71 %
19.17 to 19.27	+4.32 %
19.27 to 19.54	-1.00 % to +1.00 %
19.54 to 19.63	-3.09 %
19.63 to 19.70	-1.00 % to +1.00 %
19.70 to 19.78	+1.36 %

Source: WSDOT TRIPS System Horizontal and Vertical Alignment Report, 05/16/95

Table 3.4-2: Horizontal Alignment
(Curve direction is for Eastbound vehicles. Reverse for Westbound.)

Approximate Milepost	Tangent or Curve Radius
0.00 to 4.82	tangent
4.82 to 4.84	573' radius curve to right
4.84 to 4.98	tangent
4.98 to 5.03	1910' radius curve to right
5.03 to 5.16	tangent
5.16 to 5.23	573' radius curve to right
5.23 to 5.29	tangent
5.29 to 5.39	573' radius curve to left
5.39 to 6.45	tangent
6.45 to 6.71	2818' radius curve to left
6.71 to 7.69	tangent
7.69 to 7.80	2865' radius curve to left
7.80 to 8.64	tangent
8.64 to 8.78	2865' radius curve to left
8.78 to 9.33	tangent
9.33 to 9.35	239' radius curve to left
9.35 to 9.36	tangent
9.36 to 9.38	239' radius curve to right
9.38 to 9.85	tangent
9.85 to 9.88	220' radius curve to right
9.88 to 9.89	tangent
9.89 to 9.91	358' radius curve to left
9.91 to 10.12	tangent
10.12 to 10.17	1910' radius curve to left
10.17 to 10.44	tangent
10.44 to 10.46	5730' radius curve to left
10.46 to 10.68	tangent
10.68 to 10.71	1910' radius curve to left
10.71 to 10.95	tangent
10.95 to 10.98	258' radius curve to left
10.98 to 11.44	tangent
11.44 to 11.49	169' radius curve to left
11.49 to 11.51	tangent
11.51 to 11.59	409' radius curve right
11.59 to 12.20	tangent

Source: WSDOT TRIPS System Horizontal and Vertical Alignment Report, 05/16/95

A shaded row indicates that the radius is less than 836 feet, the minimum for 50 mph design speed.

Table 3.4-2 (cont.): Horizontal Alignment
(Curve direction is for Eastbound vehicles. Reverse for Westbound.)

Approximate Milepost	Tangent or Curve Radius
12.20 to 12.28	2865' radius curve right
12.28 to 12.38	tangent
12.38 to 12.41	1910' radius curve to left
12.41 to 12.52	tangent
12.52 to 12.66	1432' radius curve to left
12.66 to 12.90	tangent
12.90 to 12.97	716' radius curve to left
12.97 to 12.99	tangent
12.99 to 13.06	716' radius curve to right
13.06 to 13.42	tangent
13.42 to 13.50	2865' radius curve to left
13.50 to 14.15	tangent
14.15 to 14.34	1433' radius curve to right
14.34 to 14.47	tangent
14.47 to 14.57	955' radius curve to left
14.57 to 14.96	tangent
14.96 to 15.14	1146' radius curve to left
15.14 to 15.34	tangent
15.34 to 15.68	1322' radius curve to right
15.68 to 15.88	tangent
15.88 to 15.93	5730' radius curve to right
15.93 to 16.65	tangent
16.65 to 16.71	11460' radius curve to left
16.71 to 16.93	tangent
16.93 to 17.04	2865' radius curve to right
17.04 to 17.25	tangent
17.25 to 17.28	2292' radius curve to left
17.28 to 17.29	tangent
17.29 to 17.32	2292' radius curve to right
17.32 to 17.50	tangent
17.50 to 17.68	5730' radius curve to left
17.68 to 17.75	tangent
17.75 to 17.86	1432' radius curve right
17.86 to 18.25	tangent
18.25 to 18.27	382' radius curve to right

Source: WSDOT TRIPS System Horizontal and Vertical Alignment Report, 05/16/95
A shaded row indicates that the radius is less than 836 feet, the minimum for 50 mph design speed.

Table 3.4-2 (cont.): Horizontal Alignment
(Curve direction is for Eastbound vehicles. Reverse for Westbound.)

Approximate Milepost	Tangent or Curve Radius
18.27 to 18.35	tangent
18.35 to 18.40	382' radius curve to right
18.40 to 18.46	tangent
18.46 to 18.56	573' radius curve to left
18.56 to 18.61	988' radius curve to left
18.61 to 18.62	323' radius curve to left
18.62 to 18.63	tangent
18.63 to 18.68	382' radius curve to left
18.68 to 18.76	1243' radius curve to left
18.76 to 18.82	tangent
18.82 to 18.85	716' radius curve to right
18.85 to 18.91	tangent
18.91 to 18.95	424' radius curve to right
18.95 to 18.96	tangent
18.96 to 19.00	623' radius curve to right
19.00 to 19.02	tangent
19.02 to 19.05	441' radius curve to left
19.05 to 19.08	tangent
19.08 to 19.16	674' radius curve to right
19.16 to 19.21	514' radius curve to right
19.21 to 19.26	tangent
19.26 to 19.32	573' radius curve to left
19.32 to 19.50	tangent
19.50 to 19.55	382' radius curve to right
19.55 to 19.78	tangent

Source: WSDOT TRIPS System Horizontal and Vertical Alignment Report, 05/16/95

A shaded row indicates that the radius is less than 836 feet, the minimum for 50 mph design speed.

3.5 Terrain and Roadside Character

Terrain

According to the *WSDOT State Highway Log, 1996*, the whole section of SR 162 runs through a level terrain.

Roadside Character

The roadside encompasses the area between the roadway pavement edge and right-of-way boundaries. Roadside character is a description of the roadside landscape from the roadway user's perspective. The *WSDOT Roadside Classification Plan (RCP)* has been created to coordinate and guide the management of Washington State highway roadsides, including planning, design, construction, and maintenance activities. It is WSDOT policy to put roadside treatments to use for the protection and restoration of roadside character and to incorporate the *RCP* into regional and route specific planning, design, construction, and maintenance programs. The goals of the *RCP* are:

- Promote transportation safety and management efficiency.
- Minimize environmental and social impacts of transportation facility construction and maintenance.
- Facilitate protection and restoration of Washington's natural environment and cultural heritage within state highway roadsides.
- Promote cooperation and communication in roadside management.

The objectives for each goal are found in WSDOT Roadside Classification Plan.

The table below shows the roadside classification by segments for SR 162.

Table 3.5-1: Roadside Classification

Milepost	Character Classification
0.00 to 8.48	RURAL
8.48 to 10.38	SEMI-URBAN - Alderton
10.38 to 19.78	RURAL

Source: *WSDOT Roadside Classification Plan 1996*.

3.6 Existing Traffic Signals

The following tables provide information relating to existing traffic signals on SR 162. Traffic Signals are further discussed in Chapter 5 of this RDP. Refer to Chapter 5 for proposed future signal locations and other relevant solutions.

**Table 3.6-1: SR 162 Existing Intersection Inventory
and Traffic Signal Locations**

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION		
					Existing Yes/No	Distance to next signal	Comments
SR 410 EB Off/On-Ramps	B	0.08	0.09	35	Yes		
74th St E	L	0.17	0.02	35	No		
74th St Ct E	R	0.19	0.10	35	No		
75th St Ct E	R	0.29	0.04	35	No		
River Grove Dr	R	0.33	0.25	35	Yes	0.25	
80th St E	R	0.58	0.25	35	No		
EQUATION MP 0.83 BACK = 3.21 AHEAD							
Pioneer Way E/Bowman Hilton Rd E	R	3.21	0.74	35	No		
96th St E	B	3.95	0.45	50	No		Developer will construct a RT on East leg, and help with 200' LT storage on SB SR 162
102nd St E	L	4.40	0.25	50	No		
106th St E	L	4.65	0.53	50	No		
115th St E	L	5.18	0.06	50	No		
115th St Ct E	R	5.24	0.11	50	No		
Military Rd E	R	5.35	0.76	50	No		
128th St E	B	6.11	0.45	50	No		
136th St E	R	6.56	0.21	50	No		
South Fork Rd	R	6.77	0.40	50	No		
144th St E	R	7.17	0.37	50	No		
149th St Ct E	R	7.54	0.56	50	No		
Village Green/Village Crest "developers"	B	8.10	0.67	50	No		Total of 1010 units between the 2 developers, may be signalized in the future as houses fill and LOS drops.

**Table 3.6-1: SR 162 Existing Intersection Inventory
and Traffic Signal Locations**

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION		
					Existing Yes/No	Distance to next signal	Comments
Old Pioneer Way E	R	8.77	0.57	50	No		
Future Pioneer village/Orting school	B	9.24	0.20	25	No		may be beginning of the couplet in downtown
Whitesell St N	B	9.34	0.10	25	No		"
Leber St	B	9.44	0.10	25	No		In case of couplet in downtown this I/S will be one way only
Calistoga St	B	9.54	0.10	25	No		This I/S may be the only signalized E/W connection between the couplet (Developer's signal).
Train Ave	B	9.64	0.09	25	No		
Bridge St N	L	9.73	0.00	25	No		
Washington Ave	L	9.73	0.04	25	No		
Van Scoyoc Ave	R	9.77	0.03	25	No		
Corrin Ave E	R	9.80	0.00	25	No		
Bridge St S	R	9.80	0.04	25	No		
Corrin Ave E	L	9.84	0.15	25	No		
Kansas Ave	R	9.99	0.10	25	No		
Harrison Ln	L	10.09	0.01	35	No		
Meadow Ln	L	10.10	0.05	35	No		
Erickson Ln	R	10.15	0.02	35	No		
Beckett Ln	R	10.17	0.01	35	No		
Noble Ln	R	10.18	0.42	35	No		
178th Ave E	R	10.60	0.37	50	No		
Orville Rd E	R	10.97	1.77	50	No		
Patterson Rd	R	12.74	0.22	50	No		
177th St E	R	12.96	0.43	50	No		

**Table 3.6-1: SR 162 Existing Intersection Inventory
and Traffic Signal Locations**

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION		
					Existing Yes/No	Distance to next signal	Comments
So Pioneer Way	R	13.39	2.10	50	No		
Airline Rd E	R	15.49	0.19	50	No		
Kaperak Rd E	L	15.68	0.23	50	No		
Spring Site Rd E	L	15.91	1.46	50	No		
NW Washington St	L	17.37	0.07	30	No		
Emory Ave S	B	17.44	0.38	30	No		
S Prarie Rd E	L	17.82	0.67	50	No		
Lower Burnett Rd E	R	18.49	1.12	50	No		
Mundy Loss Rd	L	19.61	0.17	50	No		
SR 165	B	19.78		50	No		

3.7 Identified Safety Deficient Sections

The following two tables highlight areas that have been targeted as Collision Reduction or Collision Prevention sections of State Route 162. Refer back to Chapter 1 of this RDP for an explanation of the Highway Safety Program I-2. Chapter 5 of this RDP discusses proposed safety improvements to SR 162, based on these safety-deficient segments.

**Table 3.7-1: Present Collision Reduction Locations
High Accident Corridors (HACS)**

Begin MP	End MP	Section Length (miles)	Section Description
0.00	7.50	5.12	SR 410 Interchange to 149th St Ct E
8.50	10.00	1.50	City of Orting, Vicinity Old Pioneer Way to Kansas Ave

Source: WSDOT State Highway System Plan 1997-2016, March 1996

**Table 3.7-2: Present Collision Prevention Locations
(Run-off-the-road)**

Begin MP	End MP	Section Length (miles)	Section Description
4.82	5.42	0.60	Military Road vicinity reverse curves
9.33	9.42	0.09	City of Orting curves, Whitesell Street Vicinity
9.85	9.95	0.10	City of Orting curves, Corrin Avenue vicinity
10.95	11.01	0.06	Orville Road intersection vicinity, curve to left
11.44	11.64	0.20	State Fish Hatchery, reverse curves
13.02	13.07	0.05	Railroad bridge vicinity, curves
14.50	14.96	0.46	Horizontal and vertical alignment West of South Prairie.

Source: WSDOT State Highway System Plan 1997-2016, March 1996

Present Accident History and Analysis

Information regarding recent traffic accident data for SR 162 was prepared by the WSDOT Planning and Programming Service Center, Transportation Data Office in Olympia. The accident information is presented through a series of tables in Appendix A of this Route Development Plan. The information provided in these summary tables may be used to determine leading causes and affects of accidents, accident rates, and conditions of the roadway during the accidents. This data aids the engineer in developing sensible strategies to reduce accidents in those areas defined as High Accident Corridors (HACs).

Chapter 4 *Present and Projected Operating Conditions*

4.1 Traffic Data Collection and Analysis

The level of highway traffic analysis (including traffic counts) that went into this RDP exceeds that which was previously done for the *Highway System Plan*. As a result, this SR 162 Route Development Plan identifies a greater need for capacity improvements than was previously determined.

The traffic volumes used for this study were taken from the actual counts gathered by the WSDOT Olympic Region's Traffic Office in 1994 and 1995 and the traffic report of WSDOT TRIPS System. These values represent a "snapshot in time" of traffic data, used in this study to determine existing and future volumes. The average daily traffic (ADT) on highway segments and the peak hour turning movement volumes at intersections were analyzed. The ADT is the volume of traffic passing a point or segment of a highway, in both directions, during a period of time, divided by the number of days in the period and factored to represent an estimate of traffic volume for an average day of the year.

The *Highway Capacity Manual software* was utilized to analyze traffic operations of highway segments and unsignalized intersections. In the analysis of highway segments, the traffic volume needed is the design hour volume (DHV) which is calculated by multiplying the ADT by the percentage of ADT occurring in the peak hour (K). The K values are taken from the System Plan which utilizes the data furnished by the Traffic Data Office at Olympia Service Center. The values for the percentage of peak hour traffic in the heaviest direction of flow (D) and the truck percentage (T) were taken from actual counts.

The 1996 average daily traffic ranges from as low as 2,352 to as high as 14,506. Truck traffic percentage ranges from 3% to 9.4%. The highest ADT (14,506) exists between SR 410 and Pioneer Way in Sumner. The lowest ADT of 2,352 occurs between South Prairie Road East Wye Connection and Lower Burnett Road East in South Prairie. The highest truck percentage of 9.4% occurs between Patterson Road and SR 165. The lowest truck traffic of 3% occurs between SR 410 and Calistoga Street. The K values range from 8% to 9%, and the D values range from 52% to 68%.

The annual traffic growth rates, generated by Pierce County Public Works and Utilities using the EMME2 Traffic Model, range from 1.46% to 2.00%. These growth rates were utilized to project the traffic volumes to the design year 2016 by annual compounding. The EMME2 Traffic Model is an evolving source of information that changes with time. Growth rates used

from the model represent a "snapshot in time" taken during the RDP preparation period.

As growth in this region continues, this RDP will be updated as time and resources allow. Large proposed developments, such as Cascadia will have a great impact on the surrounding network of roads. As that development and others move ahead, this RDP as well as other agency documents would need to be updated to reflect the substantial impacts that would be realized.

4.2 Present Operating Conditions

The highway capacity segment analysis was performed to determine the operational levels of service of the existing traffic conditions on SR 162. Existing traffic conditions are based on 1996 traffic counts. From the beginning of the route at its junction with SR 410 to Puyallup River Bridge at MP 6.81, traffic conditions operate with a level of service E. This level of service is below the required minimum LOS D for urban areas. From Puyallup River Bridge to Calistoga Street at MP 9.54, the traffic operation changes to a level of service D which is less than the required minimum LOS C for rural areas. Between Calistoga Street and South Prairie Road East Wye Connection, the traffic operation improves to an acceptable operational level of service C. From this point to the end of the route at the junction with SR 165 at MP 19.78, the level of service is B.

There are currently three signalized intersections on SR 165. Two of these are the ramp terminal intersections at the junction with SR 410 near the beginning of the route. The other one is the intersection with River Grove Drive at MP 0.33. The traffic operations of these intersections were not analyzed. Intersection traffic counts are not available at the time of the analysis. It is assumed, however, that the operational levels of service on the highway segments will cause traffic conditions at the intersections to operate at the same levels. Unsignalized intersections were also not analyzed.

Table 4.3-1 shows the summary of the present and future operating conditions. This table identifies operating levels of service with and without improvements. Improvements are discussed further in Chapter 5.

4.3 Future Operating Conditions

Without any improvements to the existing facility, the traffic operations on the more congested sections of SR 162 are expected to deteriorate by the

year 2016. The section from SR 410 to Calistoga Street in Orting will operate with a level of service E. The operational levels of service from Orville Road East to SR 165 will continue to operate in the B to C region, with the level of service from Lower Burnett Road East at MP 18.49 to SR 165 dropping from B to C.

From the beginning of the route to Puyallup River Bridge at MP 6.81, the highway is within the Tacoma Urbanized Area. From MP 6.81 to the end of SR 162 at MP 19.78, the highway is within a rural area. The Mobility Subprogram of the WSDOT Highway System Plan states:

“Mitigate congestion on urban highways in cooperation with local and regional jurisdictions when the peak period level of service falls below Level of Service D.

Provide uncongested conditions (Level of Service C) on rural highways.”

Proposed widening improvements for the route as discussed in Chapter 5 of this report will improve the traffic operations of the highway segments and the signalized and unsignalized intersections, as well.

The following table shows the summary of the present and future operating conditions. The table identifies operating levels of service with and without improvements.

Table 4.3-1**SR 162 Highway Segment Analysis Levels of Service
SR 410 to SR 165**

BEG MP	DESCRIPTION	END MP	1996 ADT	2016 ADT	1996 LOS	2016 LOS W/O IMPR.	2016 LOS With IMPR.
0	SR 410 to Pioneer Way East	0.83	14506	23770	E	E	B
Milepost Equation: MP 0.83 Back = 3.21 Ahead							
3.21	Pioneer Way East to Puyallup River Bridge	6.81	12976	21263	E	E	B
6.81	Puyallup River Bridge to Old Pioneer Way East	8.77	10648	17448	D	E	A
8.77	Old Pioneer Way East to Calistoga Street	9.54	9299	15237	D	E	A
9.54	Calistoga Street to Orville Road East	10.97	4099	6717	C	D	A
10.97	Orville Road East to Patterson Road	12.74	4099	5973	C	C	No Additional Capacity Needs Identified
12.74	Patterson Road to South Prairie Road East Wye Connection	17.76	3904	5688	C	C	No Additional Capacity Needs Identified
17.76	South Prairie Road East Wye Connection to Lower Burnett Road East	18.49	2352	3427	B	B	No Additional Capacity Needs Identified
18.49	Lower Burnett Road East to SR 165	19.78	4027	5984	B	C	No Additional Capacity Needs Identified

4.4 Land Use and Zoning

The need for land use planning and regulation increases as the demand for housing, streets, commercial facilities, and public facilities grow.

Limitations are placed on the use of a land to minimize negative impacts to neighboring properties. Zoning regulates the locations of land uses. It is a means of assuring that land uses are compatible to one another. It allows for control of densities in each zoning category, with the purpose of providing adequate facilities for such categories. Zoning ordinances are established to prescribe setbacks and minimum lot sizes and provide techniques to preserve and protect environmentally sensitive areas. The land use plan is a basic part of the comprehensive plan which is an official statement of the county or city policy establishing the direction it will follow as it develops and changes.

The proposed land use zonings for adjacent areas along SR 162 are shown on the following land use maps. These maps have been taken from the respective city or county comprehensive plan and are believed to be the most current to date.

Knowing adjacent land use zonings along SR 162, traffic generated by expected developments can be predicted. Land use zonings are taken into consideration when performing traffic modeling. The growth rates resulting from the EMME2 Traffic Model performed by Pierce County Public Works and Utilities reflect the proposed land use.

As mentioned previously in this chapter, as growth in this region continues, this RDP will be updated as time and resources allow. Large proposed developments, such as Cascadia will have a great impact on the surrounding network of roads. As that development and others move ahead, this RDP as well as other agency documents would need to be updated to reflect the substantial impacts that would be realized.



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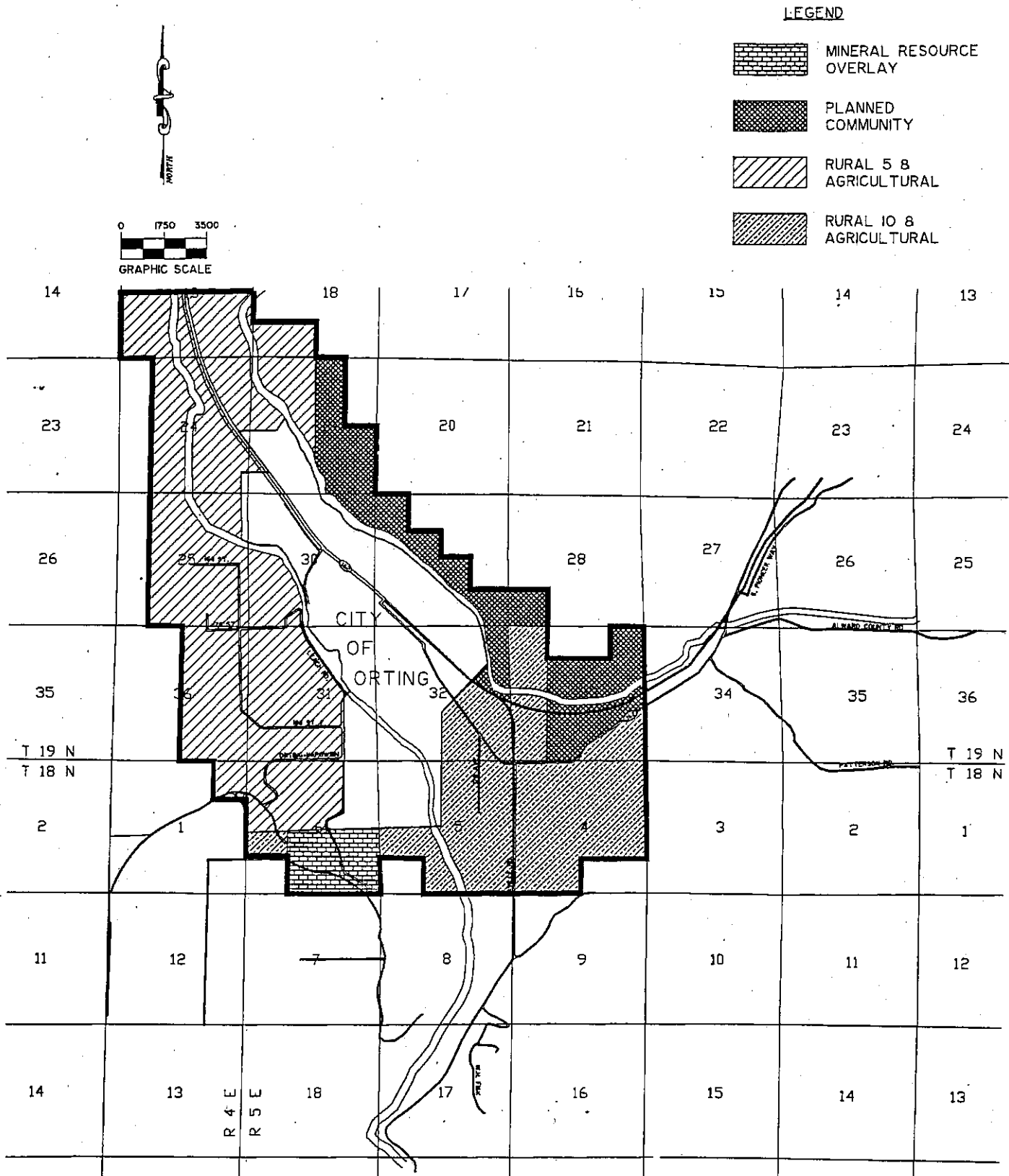
This is a detailed cadastral or land ownership map of a section of the Fort Belknap Reservation. The map uses various shading patterns to denote different types of land or ownership status: diagonal hatching for one category, solid black for another, and white for a third. Numerous rectangular and irregular polygons represent individual land parcels, many of which are labeled with "DD". A network of roads is shown, including SR 167 running vertically on the left, SR 168 running horizontally across the middle, and SR 418 running diagonally from the bottom center towards the right. Other roads include VALLEY HWY, FOREST CANYON DR, SUMNER THOMPSON HWY, and GARDEN OF EDEN DR. Geographical features such as the STICK RIVER and FOYALLS RIVER are depicted with wavy lines. A small area in the upper left is labeled "C". The map is oriented with North at the top.

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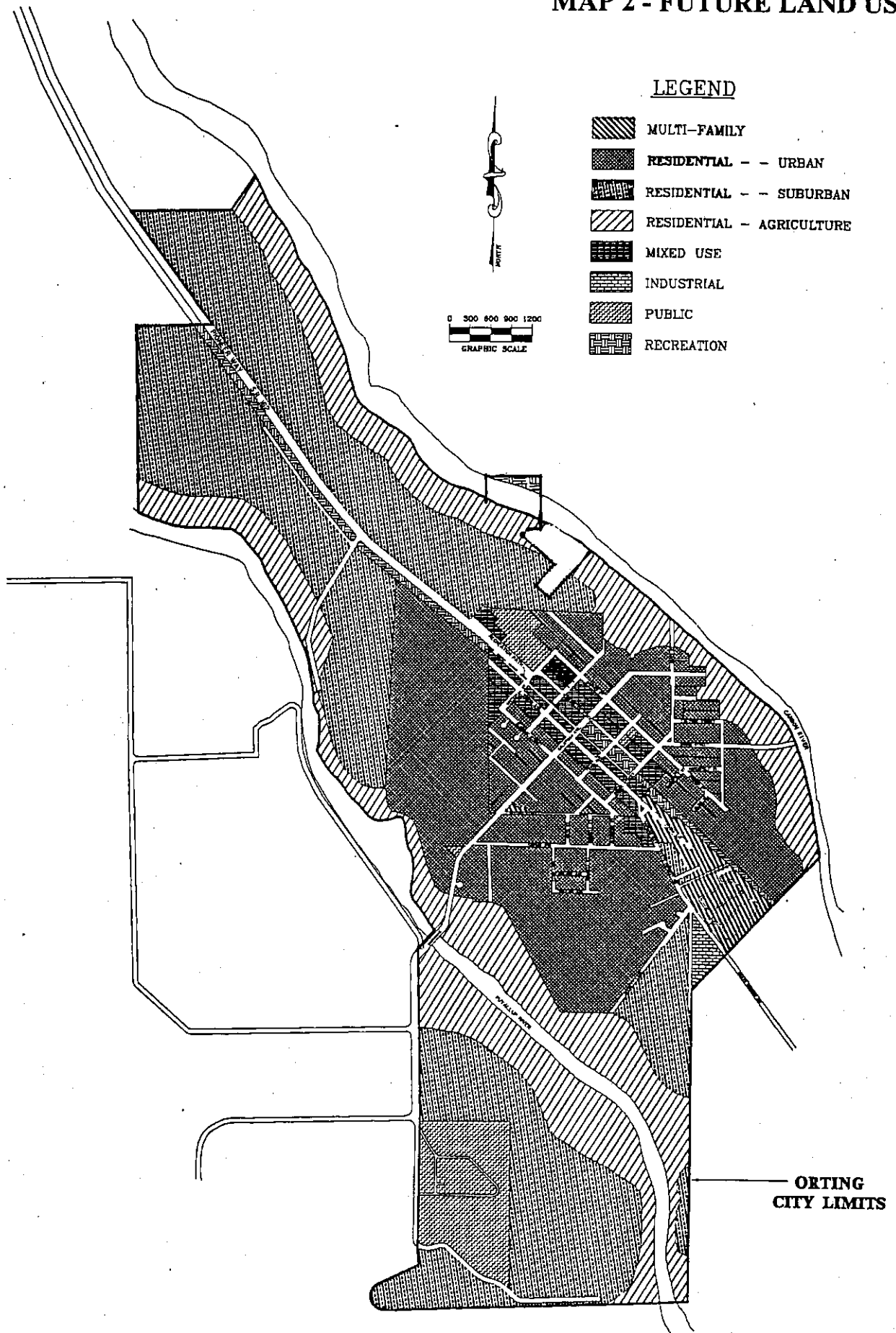
This is a detailed cadastral or land ownership map of a section of the Fort Belknap Reservation. The map uses various patterns and colors to denote different types of land or ownership status. Large areas are filled with diagonal hatching (top-left to bottom-right) and cross-hatching. Other areas are solid black, white, or light gray. Numerous small rectangular plots are outlined throughout the map. Key roads shown include SR 167 running vertically on the left, SR 168 running horizontally across the middle, and SR 418 running diagonally from the bottom center towards the right. Other labeled roads include Valley View Dr, Forest Canyon Dr, Summer Thops Hwy, Foyall Dr, and Riverside Dr. Water bodies such as Stick River and Foyall River are depicted with wavy lines. Various labels like "DD", "C", "F", and "H" are scattered across the map, likely representing different categories of land or administrative divisions. A north arrow is located in the upper right quadrant. The map is oriented with North at the top.

[illegible]

MAP 3 - PIERCE COUNTY LAND USE DESIGNATIONS IN ORTING PLANNING AREA



MAP 2 - FUTURE LAND USE



5.1 Highway Improvement Recommendations

This chapter of the SR 162 RDP presents a listing of recommended highway improvements. These improvements are part of the Highway Improvement Program I, as was introduced in Chapter 1 of this RDP. The improvements are defined as Mobility, Safety, Economic, and Environmental categories. The highway improvement recommendations are presented here according to route segment. There are four general segments of SR 162 as follows:

- City of Sumner
- Pierce County, from Sumner to Orting
- City of Orting
- Pierce County, from Orting to End SR 162 at Junction SR 165

Information regarding cost estimates and completion time frames for the recommended improvements are summarized in Chapter 8 of this RDP.

A public opinion survey of residences and businesses along the SR 162 corridor was conducted (see Chapter 7, Public Involvement). This process, as well as public open houses and steering committee meetings, provided valuable input to the decision making that went into the recommended highway improvements listed in this RDP.

Recommendations were arrived at after evaluating input from businesses in the area and local residents. Every effort was made to apply good engineering judgments to find improvement strategies to the issues and concerns raised by the public and in compliance with local plans. Strategies outlined in the *WSDOT Highway System Plan* were evaluated. The *Highway System Plan* will be modified and updated as needed after this route development plan is approved.

The opinions of the local residents and businesses about the current conditions and potential improvements along SR 162 include the following:

- More than eight out of ten (85 %) of the people surveyed feel that the overall traffic situation on and around SR 162 has gotten worse in the past five years. Eight out of ten (81 %) feel that the traffic situation will get much worse in the next ten years if the road remains in its current state.
- The majority (80 %) of residents familiar with the area of Highway 162 which would be affected, support the proposal of four lanes with a

median barrier in the area from Pioneer Avenue South to where the two rivers (Carbon and Puyallup) meet.

5.2 City of Sumner Vicinity Highway Improvement Recommendations

State Route 162 begins at the SR 410 Interchange in South Sumner. Presently SR 162 leaves the City at highway milepost 0.53. A review of Sumner's *Comprehensive Plan, April 1994*, shows that the City's interim urban growth boundary extends further south to approximately milepost 4.65, at the vicinity of 106th Street East. The following recommended improvements to SR 162 are part of WSDOT's Program I.

Recommended Highway Mobility Improvements

- **Highway Location:** *SR 410 Interchange to Pioneer Way
MP 0.00 to MP 0.83
Section Length: 0.83 miles*

Deficiency: *Present peak period Level of Service is below the acceptable LOS D for Urban Areas.*

Expected Level of Service Results: If the following mobility improvement is performed, it is expected that this section of SR 162 will operate near a LOS B through the planning horizon of year 2016.

Recommended Improvement:

Construct one additional general purpose lane in each direction. This would create an ultimate 5 lane roadway. Curb, gutter, and sidewalk, with enclosed drainage is recommended as part of this highway improvement. In this section, SR 162 generally operates within a 60 foot wide right-of-way corridor. Additional highway right-of-way will likely be required for this improvement. Some homes may also be impacted as a result of this capacity expansion.

Recommended Highway Safety Improvements

The Highway Safety Program I-2 was introduced in Chapter 1 of this Route Development Plan. Please refer to that chapter for explanations of the Safety objectives, action strategies, and definitions of Collision Prevention and Collision Reduction categories.

The Safety projects recommended in this Route Development Plan provide strategies to current Collision Reduction and Collision Prevention target areas. Recommended strategies to address HACs are based on recent accident analyses and previous strategies contained in the current *Highway System Plan*. It was found that some Collision Prevention sections overlap

with Collision Reduction sections; and the best improvement strategies are usually common to both.

- **Project Location:** *SR 410 to Sumner South City Limit
MP 0.00 to MP 0.53
Section Length: first 0.53 miles of 5.12 miles*

Deficiency: *Identified as a HAC*

Recommended Improvement:

This Collision Reduction section actually extends to MP 7.50 near 149th Street East in Pierce County. The entire length of this HAC is 5.12 miles, not 7.50 miles. The reason for this is that there is a highway milepost equation encountered in this section (MP 0.83 back = MP 3.21 Ahead).

The recommended improvement to this safety deficient section of SR 162 is to provide cross-section and geometric improvements, traffic signals, and access treatments.

The proposed capacity improvements are also recommended as a potentially cost-effective means to reduce the number and severity of accidents in the section (see Mobility).

Traffic Signals are discussed in Chapter 5.9 of the RDP. There it is recommended that signals be installed along SR 162 (as conditions warrant) to help reduce the severity of collisions.

5.3 Pierce County (Between Sumner and Orting) Highway Improvement Recommendations

Recommended Highway Mobility Improvements

- **Highway Location:** *Pioneer Way to 144th Street East*
MP 0.83=3.21 to MP 7.1
Section Length: 3.89 miles

Deficiency: Present peak period Level of Service is below the acceptable LOS D for Urban Areas and LOS C for rural areas.

(SR 162 falls within the "Tacoma Urbanized Area" from SR 410 to the Puyallup River at MP 6.81. Beyond MP 6.81, SR 162 is within "rural" area.)

Expected Level of Service Results: If the following mobility improvement is performed, it is expected that this section of SR 162 will operate near a LOS B and A through the planning horizon of year 2016.

Recommended Improvement:

Create a four lane facility by constructing one additional general purpose lane each direction. The RDP Steering Committee recommends this section of SR 162 be reclassified as a Class 2 facility in the *WSDOT Access Management Plan* (see Chapter 3 of this RDP). Presently a Class 3 designation applies. When a Class 2 facility becomes multi-laned, median barrier is typically used to separate opposing directions of travel. This is proposed for this section of SR 162. There would be breaks in the median approximately every one half mile to provide left turn access and U-turn access. The mobility improvement described here would likely require additional right-of-way along SR 162. A problem we foresee with this is the large transmission lines presently paralleling the highway along the left side. Widening, therefore, possibly may not occur symmetrically about the centerline.

Public and Agency Support:

The Public Opinion Survey identified that the majority (80%) of residents familiar with the area of Highway 162 which would be affected, support the proposal of four lanes with a median barrier in the area from Pioneer Avenue South to where the two rivers (Carbon and Puyallup) meet.

Recommended Highway Safety Improvements

- **Project Location:** *Sumner South City Limit to 149th St E*
MP 0..53 to MP 7.50
Section Length: 4.59 miles of 5.12 miles

Deficiency: Identified as a HAC

Recommended Improvement:

This Collision Reduction section actually begins at the SR 410 Interchange and extends to MP 7.50 near 149th Street East in Pierce County. The entire length of this HAC is 5.12 miles, not 7.50 miles. The reason for this is that there is a highway milepost equation encountered in this section (MP 0.83 back = MP 3.21 Ahead).

The recommended improvement to this safety deficient section of SR 162 is to provide cross-section and geometric improvements, traffic signals, and access treatments.

The proposed capacity improvements are also recommended as a potentially cost-effective means to reduce the number and severity of accidents in the section (see Mobility).

Traffic Signals are discussed Chapter 5.9 of the RDP. There it is recommended that signals be installed along SR 162 (as conditions warrant) to help reduce the severity of collisions.

- **Project Location:** *Military Road Intersection Vic*
MP 4.82 to MP 5.42
Section Length: 0.60 miles

Deficiency: Identified as a Collision Prevention (run-off-the-road) section

Recommended Improvement:

This Collision Prevention section is contained within the above HAC section. It was found that some Collision Prevention sections *overlap* with Collision Reduction sections; and the best improvement strategies are usually common to both. This section is likely a Collision Prevention section due to the horizontal reverse curves near the Military Road intersection. This intersection was recently channelized, and the highway curves were realigned slightly to reduce the degree of curvature. When the recommended mobility improvements are considered in the future, these reverse curves should be evaluated and improved to the best extent practical. A complete realignment to straighten this section was discussed by the RDP

Steering Committee. It was found that such action would definitely impact existing homes along the roadside.

5.4 City of Örting Vicinity Highway Improvement Recommendations

Recommended Highway Mobility Improvements

- **Highway Location:** *144th St E to Whitesell St N*
MP 7.10 to MP 9.3
Section Length: 2.2 miles

Deficiency: Present peak period Level of Service is below the acceptable LOS C for rural areas.

Expected Level of Service Results: If the following mobility improvement is performed, it is expected that this section of SR 162 will operate near a LOS A or B through the planning horizon of year 2016.

Recommended Improvement:

Create a four or five lane facility by constructing one additional general purpose lane each direction, and possibly a center two-way left-turn lane. The RDP Steering Committee recommends this section of SR 162 remain as a Class 3 facility in the *WSDOT Access Management Plan*. Class 3 highways, when multi-laned, typically are constructed with a center raised traffic island which serves as a restrictive median. The island may be landscaped if the local agency chooses to maintain the landscaping. Breaks in the median typically occur every one half mile, to allow left turn and U-turns.

The RDP Steering Committee recommends that a two-way left-turn lane be used in this section (if warranted) instead of the raised traffic island.

It is expected that additional highway right-of-way will be required to construct this improvement. If this is found to be the case, coordination should occur between agencies to minimize impacts to existing facilities such as the Foothills Non Motorized Trail.

- **Highway Location:** *Whitesell St N to Corrin Ave*
MP 9.3 to MP 9.85
Section Length: 0.55 miles

Deficiency: Present peak period Level of Service is at or below the acceptable LOS C for rural areas.

Expected Level of Service Results: If the following mobility improvement is performed, it is expected that this section of SR 162 will operate near a LOS A or B through the planning horizon of year 2016.

Recommended Improvement:

The Steering Committee determined that the best strategy to improve mobility through the business district of Orting is to construct a one-way couplet system. This could be accomplished by using the existing SR 162 for two lanes of Northbound travel, while Southbound motorists would travel on the city street known as Corrin Avenue. This system would begin near the intersection of Whitesell Street and SR 162. At this point Southbound SR 162 would diverge to the west, using Whitesell Street as a connection to Corrin Avenue. At the intersection of Whitesell and Corrin, Southbound traffic would turn onto Corrin Avenue, following the present alignment of Corrin to its southern terminus with SR 162. At that intersection the proposed SR 162 one-way couplet system would end. This system would increase capacity of the highway without large impacts to the surrounding established businesses.

This system would need to be constructed to WSDOT standards. Careful consideration should be given to the Southbound lanes, by using the existing city streets and by providing acceptable curve radii. For example, the present intersection of Whitesell and SR 162 would not be satisfactory as it exists. This existing right angle intersection would need to be modified with a larger curve radius. This would provide a smooth transition for Southbound motorists. Similar geometrics would be needed at the intersection of Corrin and Whitesell to provide an acceptable curve radius.

This system would allow both Northbound and Southbound travelers opportunities to turn left to destinations within this four block one-way couplet. The existing east-west streets, such as Calistoga Street and Train Avenue would provide these options.

The above mentioned geometric requirements need to be considered by the City when new developments are introduced. For example, the vacant property in the Northwest quadrant of the SR 162/Whitesell Street intersection should be preserved near the intersection to allow slight realignment for a larger curve. Through practical setback requirements, this should be easily preserved.

The speed limit in this vicinity of Orting would remain as 25 mph.

Traffic signals should be considered through this section as part of an overall strategy to improve traffic flow. Presently the intersection of SR 162 and Calistoga Street is scheduled to receive a traffic signal.

- **Highway Location:** *Corrin Ave to Orville Road*
MP 9.85 to MP 11
Section Length: 1.15 miles

Deficiency: *Present peak period Level of Service is at the acceptable LOS C for rural areas. If the following improvement is not constructed by the planning horizon year 2016, it is expected that this section of SR 162 will operate at or below LOS D.*

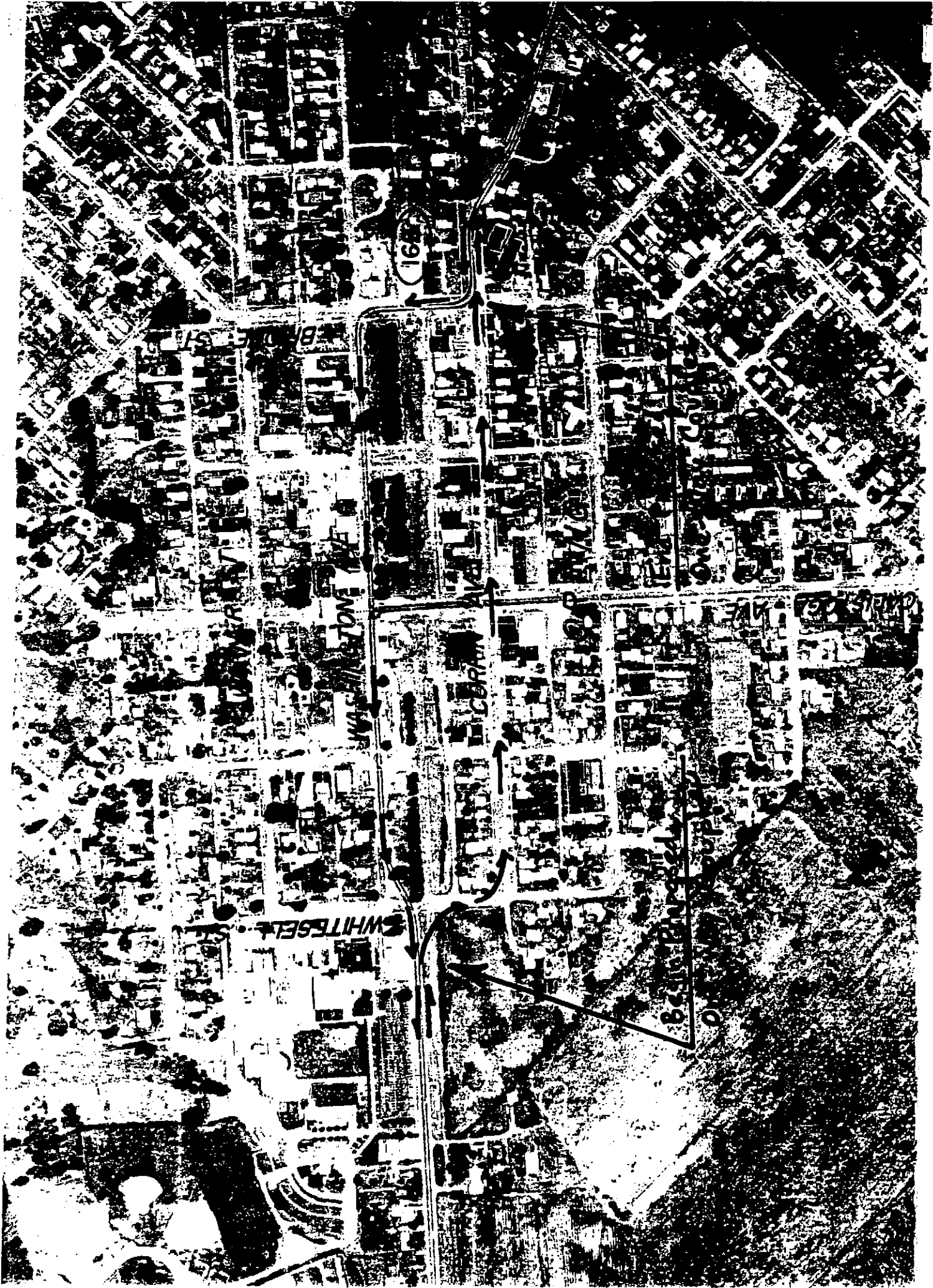
Expected Level of Service Results: *If the following mobility improvement is performed, it is expected that this section of SR 162 will operate near a LOS A or B through the planning horizon of year 2016.*

Recommended Improvement:

The Steering Committee recommended that this section of SR 162 be improved by providing one additional general purpose lane each direction.

This improvement would begin at the intersection of Corrin Avenue, at the southern end of the proposed couplet system described in the preceding recommendation. The committee determined that the existing Class 3 Access Management Plan designation is best for this section of the route.

Either a center two-way left-turn lane or a raised median island should be considered as part of this recommendation. Additional right-of-way will likely be required to widen SR 162 from Corrin to Orville Road.



Recommended Highway Safety Improvements

The current *WSDOT Highway System Plan* identifies several sections of SR 162 within the City of Orting that are targeted for safety improvements. The Safety projects recommended in this Route Development Plan provide strategies to current Collision Reduction and Collision Prevention target areas. Recommended strategies to address HACs are based on recent accident analyses and previous strategies contained in the current *Highway System Plan*. It was found that some Collision Prevention sections *overlap* with Collision Reduction sections; and the best improvement strategies are usually common to both.

- ***Highway Location:*** ***Old Pioneer Way vic to Kansas Ave***
MP 8.5 to MP 10
Section Length: 1.5 miles

Deficiency: Identified as a HAC

Recommended Improvement:

Improvements in this section of SR 162 could include channelization and signalization of intersections when warrants are met. Calistoga Avenue is scheduled to receive a traffic signal. Improved sight distances at intersections should also be considered. This could require additional right-of-way.

The recommended mobility improvements in this area would also be expected to increase highway safety.

- ***Highway Location:*** ***Orting Business District Vicinity***
MP 9.33 to MP 9.42
Section Length: 0.09 mile

Deficiency: Identified as a Collision Prevention (run-off-the-road) section

Recommended Improvement:

This Collision Prevention section is contained within the above HAC section. It was found that some Collision Prevention sections *overlap* with Collision Reduction sections; and the best improvement strategies are usually common to both. This section likely is identified as deficient due to the horizontal curves through the business district. The proposed mobility improvement of a one way couplet system could improve the horizontal curve radii.

• **Highway Location:** *Orting Business District Vicinity*
MP 9.85 to MP 9.95
Section Length: *0.10 mile*

Deficiency: *Identified as a Collision Prevention (run-off-the-road) section*

Recommended Improvement:

This Collision Prevention section is contained within the above HAC section. It was found that some Collision Prevention sections *overlap* with Collision Reduction sections; and the best improvement strategies are usually common to both. This section likely is identified as deficient due to the horizontal curves through the business district. The proposed mobility improvement of a one way couplet system could improve the horizontal curve radii.

5.5 Pierce County (Orting to End SR 162) Highway Improvement Recommendations

Recommended Highway Mobility Improvements

There are no identified highway mobility deficiencies along SR 162 East of the City of Orting. As was shown in Chapter 4 of this RDP, forecasted traffic volumes to the year 2016 do not warrant additional traffic lanes. As this Route Development Plan is updated in the future, traffic volumes will be reevaluated and mobility recommendations will reflect a new twenty-year planning horizon.

Recommended Highway Safety Improvements

The current WSDOT *Highway System Plan* identifies several sections of SR 162 within this rural Pierce County section that are targeted for safety improvements.

All of the safety deficient sections in this section are categorized as Collision Prevention sections.

The following improvements are recommended.

- ***Highway Location:*** ***Orville Road Intersection Vicinity***
MP 10.95 to MP 11.01
Section Length: 0.10 mile

Deficiency: *Identified as a Collision Prevention (run-off-the-road) section*

Recommended Improvement:

This section is identified as deficient due to the horizontal curvature of SR 162 near the intersection of Orville Road. The recommended improvement to this section involves realignment of the highway to provide a curve of greater radius. This will require additional right-of-way.

- ***Highway Location:*** ***Voights Creek Bridge Vicinity***
MP 11.44 to MP 11.64
Section Length: 0.20 mile

Deficiency: *Identified as a Collision Prevention (run-off-the-road) section*

Recommended Improvement:

This section is deficient due to the horizontal curvature of SR 162 near the State Fish Hatchery at Voights Creek. The recommended improvement to this section involves realignment of the highway to provide increased curve

radii on these reverse curves. Replacement of Voights Creek Bridge would be required. This improvement will also require additional right-of-way.

- **Highway Location:** **BNRR Undercrossing**
MP 13.02 to MP 13.07
Section Length: 0.05 mile

Deficiency: Identified as a Collision Prevention (run-off-the-road) section

Recommended Improvement:

This section is deficient due to the horizontal curvature of SR 162 as it negotiates the Burlington Northern Rail Road Bridge. The recommended improvement to this section involves realignment of the highway to provide increased curve radii on these reverse curves. Replacement of the existing railroad bridge would likely be a requirement, since this is now used as part of the Foothills Trail Non Motorized path. This improvement could require additional right-of-way.

- **Highway Location:** **Mile 14**
MP 14.5 to MP 14.96
Section Length: 0.46 mile

Deficiency: Identified as a Collision Prevention (run-off-the-road) section

Recommended Improvement:

This section is deficient due to the narrow shoulders horizontal curvature of SR 162 in this rural section of SR 162. The recommended improvement to this section involves widening the shoulders to four foot standards.

5.6 Traffic Operations (Program Q)

With the creation of the *Highway System Plan*, Traffic Operations (Program Q) was developed.

Traffic Operations relates to urban highway sections where the efficiency of the transportation system is improved through means of low-capital investments such as high occupancy vehicle (HOV) lanes, ramp metering, HOV bypass lanes, exclusive HOV access, variable message signs (VMS), closed circuit television (CCTV), and incident response teams (IRT's). The Traffic Operations approach is intended to maximize benefit of today's limited resources and to expand the use of existing transportation facilities and services to the greatest extent possible. Traffic Operations measures will help reduce the number of single occupancy vehicles using the highway, thus to some degree, reduce the need for future capacity expansion.

Highway System Plan Traffic Operations Service Objective and Action Strategies

All of the *WSDOT Highway System Plan 1997-2016* Traffic Operations service objective and action strategies could be applicable to the development of State Route 161 and are provided below.

Service Objective:

Operate the highway transportation system safely and efficiently.

Action Strategies:

- **Increase highway efficiency and safety through full utilization of the existing system.**
- **Improve arterial efficiency and safety through traffic signal timing and coordination efforts.**
- **Perform safety and efficiency investigations in response to constituent concerns to identify small cost operational enhancement opportunities.**
- **Implement consistent statewide traffic design and operational policy, specifications, and regulations.**
- **Evaluate and deploy proven technology applications to optimize the existing system investments.**
- **Develop and implement small cost, immediate improvements to address identified operational, safety, and efficiency concerns.**

These action strategies show how closely tied this program is to the mobility and safety improvement programs. This route development plan does not address individual Program Q strategies at this time. However, as opportunities arise in the future, this RDP will be updated to incorporate Program Q recommendations. Program Q could be used to serve local constituents by addressing small cost safety improvements. These investments (aside from routine maintenance) often represent the only improvements on state highways until a major Preservation or Improvement project occurs.

5.7 Transportation Demand Management

Transportation demand management (TDM) contains a broad range of strategies intended to reduce and reshape the demand of the transportation system. Such strategies are often relatively low in cost. Their success depends both upon the active cooperation of the private sector, and upon affective decision making by the individuals who use the transportation system. System expansion for single occupancy vehicles is a last resort strategy. TDM measures can include:

- Carpool or vanpool formation assistance
- Encouraging people to walk or ride a bike
- Transit subsidies
- Worker-driver programs for buses and vanpools
- Passenger-only ferry systems
- Designated carpool or vanpool parking
- Parking restrictions - increased parking prices
- Work hour flexibility
- Telecommuting

The Route Development Plan Steering Committee did not discuss this issue to the details necessary to prescribe recommendations. There are many possibilities for effective TDM strategies along most state highways, SR 162 included. Many, however, are not controlled by WSDOT, but are in the hands of the local and regional agencies and the private sector. WSDOT does encourage these agencies to move forward with plans to implement these "State Interest" strategies. Local and Regional Comprehensive and Transportation Plans were reviewed during the preparation of this RDP. It was found that all of the Plans discuss strategies related to TDM.

additional trips to relieve overcrowding. Bus service may be removed where it duplicates rail service.

Commuter Express and Center Connections - Connections will begin serving the key corridors of Bonney Lake/South Hill-Boeing (Fredrickson) and between Bonny Lake-Tacoma CBD by the year 2000 with additional corridors Lakewood to Boeing (Fredrickson) and Puyallup to TCC by the year 2005. By year 2010, midday services and expanded commute hour services will be added on routes that experience significant demand. Modest improvements will take place by year 2020, including additional trips to relieve overloading.

Local Fixed Route - Pierce Transit will provide new services linking Puyallup with Lakewood via S. 72nd St and upgrade services in Puyallup/.Sumner, and expand route services in Mid-County areas by the year 2000. It will improve frequencies by the year 2005. Improvements on high demand local routes will be made by establishing new routes in developing neighborhoods surrounding Puyallup and Sumner, and in Mid County areas, especially near Fredrickson and Spanaway by the year 2010. Generally modest service expansion will be provided by year 2020 reflecting the relatively low rate of population growth.

5.8 Transit Services and Park & Ride Lots

Public Transit

Public transit services can have a positive affect on State Route 162 by reducing the volumes of general purpose vehicles. The city, county, and regional transportation plans were reviewed to acknowledge any plans for future transit service to SR 162. WSDOT supports efforts to provide increased transit service to SR 162 and is committed to providing safe and efficient access to transit users along the state route.

The State Highway System Plan assumes that some form of high capacity transit (such as commuter buses and rails) will be funded and in operation in the Central Puget Sound region in the next 20 years.

Pierce Transit has been providing transit service since 1980. Route 403 is operating on SR 162. It provides a connection between the Puyallup Transit Center through Pioneer way to the city of Orting and Soldiers' home and back three times a day- (effective Sept 1st). Presently there is no bus connection at SR 410.

The city of Orting is working with developers to set aside land adjacent to SR 162 for bus pullouts; ideally one-quarter of a mile apart to encourage walking from residential developments. Without pullouts, transit is prohibited from stopping on SR 162.

According to the *City of Orting Comprehensive Plan*, preferred locations of these bus pullouts are as follows

1. SR 162 halfway between 159th Ave E and Whitesell St.
2. SR 162 at 159th Ave. E.

The *Pierce Transit System Plan* does not identify any improvements to service along SR 162. However, the following improvements in transit service to the mid Pierce County region have been identified by Pierce Transit:

Regional Express - Pierce Transit will expand peak period services between Bonney Lake to Auburn/Renton by the year 2000. It will also expand peak hour services during midday between Puyallup and Auburn/Kent and between Puyallup and Seattle by the year 2005. By year 2010, it will continue to expand regional express services concentrating on growing regional commute destinations. New services will likely improve frequencies on existing express routes where overcrowding occurs. By the year 2020, modest bus service improvements will be done, including

Park and Ride Lots

Park and ride lots are becoming increasingly necessary in Pierce County and the South Puget Sound Region. These facilities promote ride sharing and increased use of public transportation, which in turn reduces the demand for increased automobile capacity. Motorists today and in the future will search for alternate modes of transportation, and if "inviting" these drivers may consider ride sharing, vanpooling and public transit. To be reasonably prepared for this and to plan for future growth, supporting infrastructure such as park and ride lots are vital.

Pierce County and the cities of Sumner, Bonney Lake, and Orting have been processing applications for large community developments. These major developments, such as Cascadia will add considerable traffic to SR 162, SR 410 and the surrounding network of city and county transportation facilities. As these large developments advance, it will become increasingly necessary for the permitting agencies to develop plans to accommodate the substantial increases in traveler populations. Park and ride lots should be located in the future near these large community developments, allowing travelers the opportunity for ride sharing and transit connections.

Presently there are no plans by local agencies for park and ride lot facilities along SR 162. As a result of the RTA, the City of Sumner does have plans for a transit center in their City. Logical locations for these facilities would be near traffic generation points, such as the SR 410 Interchange, in Sumner, the Alderton/McMillin area, and near the City of Orting. As growth continues in these areas, the future need for park and ride lots will increase. This RDP will be updated in the future to reflect new strategies outlined in local and regional plans and the *Pierce Transit System Plan*.

5.9 Traffic Signal Recommendations

The purpose of this section in the SR 162 RDP is to present a long range vision of where traffic signals should be located along SR 162.

Traffic signals impact both highway mobility and highway safety. They often control the operating level of service of a facility if they are closely spaced. They also create a safer facility by reducing the severity of accidents at unsignalized intersections.

Improvements to existing traffic signals, and proposed future signal locations, should be considered to be included in future mobility or safety projects.

The WSDOT Access Management Plan (AMP) plays an important role in planning for highway developments. The AMP was consulted, as well as the WSDOT Olympic Region Traffic Engineer and the RDP Steering Committee when the SR 162 corridor was evaluated for future traffic signal needs and locations. Within the study limits of this RDP, the AMP identifies SR 162 as a Class 3 and Class 4 facility. However, The RDP Steering Committee recommends some class 3 sections be upgraded to class 2 sections (see Access Management). A Criteria of these designations is that openings in restrictive medians should occur at one half mile intervals or greater. With this in mind, the RDP Steering Committee set out to determine which locations ought to receive breaks in a restrictive median section of highway. Upon determining where these breaks would occur, the committee realized that traffic signals ought to be part of the long term solution at these intersections. The reason for this is to provide safe, controlled left-turn and U-turn opportunities through sections where restrictive medians are constructed.

Some intersections along SR 162 are proposed to receive traffic signals in the future, when warrants are met.

The following tables provide information relating to existing and proposed traffic signals on SR 162. The tables also present information summarizing the *WSDOT Access Management Plan* classes as they apply to sections of SR 162.

These tables will serve as a guide to the Olympic Region's Project Development staff when designing projects, and Developer Services team when working with local developers or jurisdictions, by providing them with the vision for SR 162 as it relates to traffic signal locations.

**Table 5.9-1: SR 162 Intersection Inventory
and Traffic Signal Locations--Existing and Proposed**

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION				ACC		
					Existing Yes/No	Proposed Yes/No	Distance to next signal	Signal Type	Signal Coordination	Highway Class	Ex
SR 410 EB Off/On-Ramps	B	0.08	0.09	35	Yes	Yes	0.25			Full control	T
74th St E	L	0.17	0.02	35	No	No				Class 3	T
74th St Ct E	R	0.19	0.10	35	No	No				Class 3	T
75th St Ct E	R	0.29	0.04	35	No	No				Class 3	T
River Grove Dr	R	0.33	0.25	35	Yes	Yes	0.25			Class 3	T
80th St E	R	0.58	0.25	35	No	Yes	0.25			Class 3	r
EQUATION MP 0.83 BACK = 3.21 AHEAD											
Pioneer Way E/Bowman Hilton Rd E	R	3.21	0.74	35	No	Yes	0.74			Begin Propose Class 2	r
96th St E	B	3.95	0.45	50	No	Yes	0.70	Traffic		Propose Class 2	r
102nd St E	L	4.40	0.25	50	No	No				Propose Class 2	r
106th St E	L	4.65	0.53	50	No	Yes	0.70			Propose Class 2	r
115th St E	L	5.18	0.06	50	No	No				Propose Class 2	r
115th St Ct E	R	5.24	0.11	50	No	No				Propose Class 2	r
Military Rd E	R	5.35	0.76	50	No	Yes	0.76			Propose Class 2	r
128th St E	B	6.11	0.45	50	No	Yes	0.45			Propose Class 2	r
136th St E	R	6.56	0.21	50	No	Yes	0.61			Propose Class 2	r

Table 5.9-1: SR 162 Intersection Inventory
and Traffic Signal Locations--Existing and Proposed

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION			Signal Type	Signal Coordination	ACC	
					Existing Yes/No	Proposed Yes/No	Distance to next signal			Highway Class	Mo Ex
Old Pioneer Way E	R	8.77	0.57	50	No	No				Class 3	n
Future Pioneer village/Orting school	B	9.24	0.20	25	No	No				Class 3	n
Whitesell St N	B	9.34	0.10	25	No	Yes	0.20			Class 4	n
Leber St	B	9.44	0.10	25	No					Class 4	n
Callistoga St	B	9.54	0.10	25	No	Yes				Class 4	n
Train Ave	B	9.64	0.09	25	No					Class 4	n
Bridge St N	L	9.73	0.00	25	No					Class 4	n
Washington Ave	L	9.73	0.04	25	No					Class 4	n
Van Scoyoc Ave	R	9.77	0.03	25	No					Class 4	n
Corrin Ave E	R	9.80	0.00	25	No					Class 4	n
Bridge St S	R	9.80	0.04	25	No					Class 4	n
Corrin Ave E	L	9.84	0.15	25	No					Class 4	n
Kansas Ave	R	9.99	0.10	25	No					Class 4	n
Harrison Ln	L	10.09	0.01	35	No					Class 4	n
Meadow Ln	L	10.10	0.05	35	No					Class 4	n
Erickson Ln	R	10.15	- 0.02	35	No					Class 4	n
Beckett Ln	R	10.17	0.01	35	No					Class 4	n

**Table 5.9-1: SR 162 Intersection Inventory
and Traffic Signal Locations--Existing and Proposed**

INTERSECTING STREET NAME	Left Right Both	SRMP	Distance to next Intersection (miles)	Speed Limit (MPH)	SIGNALIZATION				Signal Coordination	ACC	
					Existing Yes/No	Proposed Yes/No	Distance to next signal	Signal Type		Highway Class	Ex
So Pioneer Way	R	13.39	2.10	50	No					Propose Class 2	r
Airline Rd E	R	15.49	0.19	50	No					Propose Class 2	r
Kaperak Rd E	L	15.68	0.23	50	No					Propose Class 2	r
Spring Site Rd E	L	15.91	1.46	50	No					Propose Class 2	r
NW Washington St	L	17.37	0.07	30	No					Class 4	r
Emory Ave S	B	17.44	0.38	30	No					Class 4	r
S Prairie Rd E	L	17.82	0.67	50	No					Propose Class 2	r
Lower Burnett Rd E	R	18.49	1.12	50	No					Propose Class 2	r
Mundy Loss Rd	L	19.61	0.17	50	No					Propose Class 2	r
SR 165	B	19.78	-19.78	50	No					Propose Class 2	r

5.10 Non-motorized Facilities

The Route Development Steering Committee discussed the needs of non-motorized travelers such as pedestrians and bicyclists. What resulted was a list of recommended improvements to State Route 162 such as paved shoulders and sidewalks. These types of improvements would likely occur during mobility or safety improvement projects, however they have been listed separately in this RDP for convenience.

It is noted that State Route 162 is not listed as a designated bicycle touring route in the WSDOT Highway System Plan. The following improvements to non-motorized travel are recommended and should be considered when an improvement project is programmed for a section of State Route 162.

- **Location:** *City of Sumner Vic.*
MP 0.00 to MP 0.83 = 3.21 Ahead

Existing Facilities:

6' to 8' paved shoulder.

Recommended Improvement:

Sidewalks and/or paved shoulders. The steering committee discussed the possibility of an extension of the Foothills Trail from McMillin to the beginning of SR 162. This would serve non-motorized travelers with a link from the SR 162 corridor to the northwest into Puyallup and Sumner.

- **Location:** *Sumner to Orting*
MP 3.21 to MP 6.11

Existing Facilities:

3' to 6' paved shoulder.

Recommended Improvement:

Paved shoulders and/or sidewalks. The steering committee discussed the possibility of an extension of the Foothills Trail from McMillin to the beginning of SR 162.

- **Location:** *City of Orting Vicinity*
MP 6.11 to MP 10.34

Existing Facilities:

2' to 4' paved shoulder. Separated Foothills Trail.

Recommended Improvement:

Use Foothills Trail and paved shoulders, sidewalks as urbanization occurs.

- **Location:** *Orting to End SR 162*
MP 10.34 to MP 19.78

Existing Facilities:

1' to 4' paved shoulder. Separated Foothills Trail.

Recommended Improvement:

Use Foothills Trail and paved shoulders.

The Pierce County Non Motorized Transportation Plan

The following information was obtained from the Pierce County Non Motorized Transportation Plan and is presented in this RDP as additional information.

The vision of the nonmotorized system in Pierce County in 2020 was developed by the Regional Trails Advisory Commission (RTAC). The RTAC, a citizens' commission that works with the Pierce County staff to review nonmotorized projects and policies, approved the vision to guide the development of the plan. Following the approval of the vision, policies were developed to translate the vision into codes and design standards. The implementation of the policies contained in this plan, by institutionalizing the consideration of nonmotorized needs, will result in improved transportation facilities for bicyclists, pedestrians, and equestrians. The policies were developed by reviewing existing federal, state, and local policies regarding the funding, design, construction, and maintenance of nonmotorized facilities.

The following table identifies the nonmotorized projects included in Pierce County's nonmotorized system.

This environmental screening was prepared by the Olympic Region Environmental and Hydraulic Services Office and provides an overview of existing environmental conditions and resulting concerns and/or limitations for the study area.

For the purposes of this Route Development Plan, the environmental screening only considers the section of SR 162 beginning at MP 0.00 and ending around MP 15.00, the limits of proposed improvements discussed in the Plan.

This Chapter of the SR 162 Route Development Plan was not available for comments before the final printing. This fact would not preclude local jurisdictions from further discussion, refinement, and decision-making of these issues. Further environmental analysis would likely be required in the future as potential projects are funded and advance to the design phase.

6.1 Environmental Elements

Earth

The existing highway alignment follows the flat to gently sloping terrain of the Puyallup River Valley at the beginning of the route, through the broad valley between the Puyallup and Carbon rivers in the middle of the route, and finally the Carbon River and then the South Prairie Creek valleys as the highway approaches the town of South Prairie.

The steepest slopes within the corridor are the roadway cut/fill slopes at 25 % to 50 % slope, and river and stream banks at crossings.

The Soil Conservation Service *Soil Survey of Pierce County Area, Washington*, General Soil Map, compiled in 1977, classifies the soils as Puyallup-Sultan association; Nearly level, well drained and moderately well drained soils formed in alluvium; on flood plains. Generally these soils are well suited for farming, are resistant to erosion and have poor load bearing capabilities.

While there is no immediate indication or recent history of unstable soils, this entire corridor is at risk in the event of an earthquake. The mapped soils meet the Pierce County geologic criteria for a Seismic Hazard Critical

Area due to liquefaction potential. In addition, river valleys which originate on Mount Rainier are volcanic hazards in the form of catastrophic mudflows which periodically inundate these valleys.

The primary impacts to the earth element due to proposed improvements are:

- Impervious surfaces will double where the highway is to be widened to 4 - 5 lanes;
- Erosion due to construction related clearing and earthwork activities;
- Potential loss of farmland to development for widening and realignment.

Air

From the beginning of SR 162 at the SR 410 interchange in Sumner, to the Puyallup River crossing near McMillin (MP 6.81), the route is within an EPA designated Nonattainment Area for carbon monoxide. The entire route is within a designated Nonattainment Area for ozone.

These designations require the proposed improvements be included in the regional air quality conformity modeling. In addition, during the design phase of project development for mobility or capacity improvement proposals, a project level conformity analysis must be conducted to assure compliance with the standards then in effect. An improvement in Level of Service will usually result in an improvement to air quality; an increase in traffic volumes will increase pollutants discharged to the air.

Water

The following waterbodies cross the SR 162 corridor:

Table 6.1-1

Waterbodies in the SR 162 Corridor

Water Body	Mile Post	WRIA
Puyallup River	0.51	10.0021
Unnamed Stream	3.87	10.0399
Unnamed Stream	4.8	10.0405
Puyallup River	6.81	10.0021
Unnamed Stream	11.04	10.0415
Voight Creek	11.5	10.0414
Rauch Creek	12.4	
Carbon River	13.16	10.0413
S. Prairie Creek	13.97	10.0429

Possible wetland areas were identified in three areas of the corridor. The first potential area is approximately 600-1200 feet south of the Puyallup River on the left side (vicinity MP 7.0). This is a forested area with that appears to be dominated by wetland vegetation.

The second area is between MP 13.4 and 13.8 left, and MP 13.4 and 14.0 right. This is a forested area associated with S. Prairie Creek. The third general area is between MP 14.0 left and right and the end of the corridor. There are quite a few areas in this section that appear to meet the criteria for wetlands on both sides of the road.

When sections of the route are funded and scheduled for project development, detailed investigations will be done to determine the actual presence and extent of wetlands and other aquatic resources.

The following segments of SR 162 are within or immediately adjacent to designated 100 year flood plain:

- Milepost 0.50 to 0.57
- Milepost 6.11 to 8.77
- Milepost 11.03 to 11.05
- Milepost 11.48 to 11.92
- Milepost 13.00 to 15.00

From the beginning of SR 162 at the SR 410 interchange in Sumner to the first Puyallup River crossing at MP 0.51, the route is within the EPA designated *Central Pierce County Sole Source Aquifer*. Any federally funded project having the potential to impact the aquifer (added impervious surfaces, stormwater treatment facilities, etc.) will require EPA review and approval of proposed stormwater treatments..

Stormwater runoff quality and quantity treatments will be developed in accordance with the WSDOT Highway Runoff Manual and any applicable regulations at the time of project design. In addition to these normal treatments, projects in the sensitive aquifer will be required to increase detention times, and limit infiltration rates of stormwater runoff.

Plants

The plant species in and adjacent to SR 162 are reflective of the land use in the corridor. The land use is rapidly changing from agricultural cropland to residential housing. There are very few blocks of forested vegetation

adjacent to the route. The largest block of forested vegetation is between MP 13 and 14, half of which is forested wetland.

Typical vegetation in the route includes row crops, pasture grasses, turf grasses, ornamental trees, reed canary grass, big leaf maple, blackberry, Douglas fir, red alder, and willow.

Animals

Habitat in the corridor is available for a variety of species including songbirds, hawks, small mammals, deer, beaver, anadromous fish, and resident fish species.

There is potential for threatened and endangered species to be present in, or adjacent to, the route. When sections of the route are funded and scheduled for project development, a Biological Assessment (BA) will be prepared (if required). A BA documents (1) the presence of endangered/threatened species; (2) the impacts to those species or their habitats; (3) the mitigation measures necessary to avoid or minimize impacts to those species.

Energy and Natural Resources

The only permanent energy requirements due to proposed improvements will be for electricity to power intersection illumination and signalization systems.

Environmental Health

There is a high likelihood that the proposed highway widening will result in impacts to underground fuel storage tanks, both abandoned and operating. Phase 1 Site Assessments will be conducted prior to any right of way purchase. These assessments will identify where potential contaminants exist and proposed methods to clean up and close the sites if required. Besides the facilities currently operating, abandoned tanks are suspected at:

- Milepost 0.34, old gas station;
- Milepost 3.95, old Alderton Store.

Highway capacity improvements in the form of added through lanes have the potential to increase noise impacts to sensitive receptors above acceptable levels. These projects must provide noise impact analyses, and

must explore practicable abatement treatments. Limited access facilities, with widely spaced access points, offer the best mitigation possibilities.

Local governments are encouraged to regulate land developments such that noise sensitive land uses be prohibited adjacent to state highways and that developments near highways be planned, designed and constructed in such a way that noise impacts are minimized.

Land and Shoreline Use

Land use and zoning are discussed in section 4.4 of this Plan. Agricultural uses include livestock grazing and feed crops, fruit and vegetable truck farms, home and garden nurseries and Christmas tree farms.

The following shoreline environment designations are found within the SR 162 corridor, according to the Shoreline Master Program for Pierce County:

- Puyallup River Rural
- Carbon River Rural
- Voight Creek Rural
- South Prairie Creek Conservancy

Any work within these jurisdictional shorelines (within 200 feet of the Ordinary High Water Line, or within the 100 year flood plain associated with the waterbody) will require compliance with the Shoreline Development Regulations, and a Shoreline Substantial Development Permit, Variance or Exemption.

Housing

As indicated in 3.1 the existing SR 162 right of way will not accommodate the proposed widening or realignments, and construction of these proposals will result in impacts to properties, dwellings and businesses adjacent to the highway. For this Plan, the level of design detail required to quantify these impacts is not available. As growth and development continues along the corridor, the potential for impacts due to facility expansion will increase.

Again, WSDOT encourages local governments to regulate development immediately adjacent to state highways to minimize impacts resulting from these anticipated expansions.

Aesthetics

The roadside character of the existing two lane highway is rural in nature. While not designated as a Scenic or Recreational Highway the visual and aesthetic impacts resulting from establishing a multi-lane divided highway are undeniable.

These impacts can be lessened by implementing roadside treatments outlined in the WSDOT Roadside Classification Plan.

Lighting and Glare

The only light produced by proposals in this Plan will be from traffic signals, installed at selected intersections, operating day and night; and by highway illumination systems, installed at all channelized or signalized intersections, operating at night.

Recreation

While SR 162 is used for some recreational travel, as noted previously in this Plan, formal recreational opportunities within the corridor are limited. Designated facilities include the Orting City Park, and the Foothills Trail, separate segments of which are in varying stages of development.

The numerous river and stream crossings offer some informal opportunities, including an undeveloped public access to the Carbon River at milepost 13.23.

Historic and Cultural Preservation

There are several historic features adjacent to SR 162 that are listed or may be eligible for listing on County, State or Federal historic registers. Those known include:

- Alderton School, milepost 3.94 right, National Historic Site, National Register of Historic Places
- McMillin (Puyallup River) Bridge, milepost 6.81, National Register of Historic Places, Historic American Engineering Record.

Many other houses and structures are potentially eligible for listing, especially in the Alderton and Orting vicinities. These will require individual investigation during project level design.

Transportation

Existing local streets and state highways accessing SR 162 are described in sections 2 and 3. Transit facilities and Park and Ride proposals are discussed in section 5.8.

The primary transportation impact will be to travel patterns resulting from the proposed median treatments, limiting crossing opportunities to selected intersections. Public services such as school busses and mail carriers, as well as local freight deliveries, local residents and local business employees will need to adjust.

Public Service

The SR 162 improvements proposed in this plan will not result in an increased need for public services.

Utilities

No new utilities are required by these proposals. Electric power, already available throughout the corridor, will be required for new traffic signal and highway illumination installations.

7.1 Local Agency and Public Input

A steering committee was formed to assist the WSDOT Olympic Region Planning Office in the route development planning process. The steering committee is made up of representatives from the City of Orting, City of Sumner, Town of South Prairie, Pierce County Public Works and Utilities, Pierce County Planning and Land Services, Pierce Transit, Puget Sound Regional Council, WSDOT Office of Urban Mobility, and WSDOT Olympic Region Planning Office.

The steering committee meetings, executive interviews, and public open houses took place at various intervals to gain public participation and input. Display materials showing the route vicinity with the initial proposed projects were utilized to better present information and ideas. Seven Steering Committee meetings were held between February 1995 and September 1996. Separate executive interviews were conducted with the City of Orting, the City of Sumner, Pierce County, WSDOT Olympic Region Program Development, and WSDOT Office of Urban Mobility. A public open house was held at the multi-purpose center in Orting on February 1, 1996 to get the public involved in the process. Two other open houses were held in September 1996 to present the RDP and its recommendations. In addition to this public meeting, two in-house meetings were held at WSDOT Olympic Region office in Tumwater to circulate information regarding the progress of the route development plan between the Region Administrator, the Planning Office, Project Development, and the WSDOT Office of Urban Mobility. The table at the end of this Chapter shows the different public meetings held in connection with this route development planning process.

The transportation elements of the comprehensive plans of the City of Sumner, City of Orting, and Pierce County were reviewed and compared to each other and to the WSDOT System Plan for concurrence. It is noted that the transportation plans and the WSDOT System Plan are aiming towards common goals and objectives. The WSDOT Planning Office had taken into consideration the local and regional transportation plans when projects were proposed to improve the route. Local agencies are encouraged to concur with the WSDOT route development plan.

7.2 Public Opinion Surveys

The WSDOT utilized the services of Pacific Rim Resources to conduct resident and business surveys. The surveys were conducted between May 9 and May 20, 1996, the result summary of which was submitted to WSDOT on June 21, 1996. Telephone surveys were conducted of 300 randomly selected residents in the area from Pioneer Way E. in Sumner to just past Mundy Loss Road. A mail survey was sent to businesses along the SR 162 corridor. A total of 28 surveys were completed and returned from businesses. These surveys were conducted to obtain a broad and representative assessment of public preferences for potential improvements on SR 162. Some highlights of this survey are provided below:

- In general, perceptions and attitudes about SR 162 are similar with the two groups surveyed--local residents and businesses.
- When residents were prompted if SR 162 needs improvements, 42 % of them replied that the highway needs at least some improvements, and 46 % feel SR 162 'definitely needs improvements made to it.'
- Respondents were asked what they perceived as the existing problems to SR 162. Traffic congestion and safety for pedestrians and bicyclists clearly stood out as major problems.
- The majority (80 %) of residents familiar with the area of SR 162 which would be affected, support the proposal of four lanes with a median barrier in the area from Pioneer Way to near the McMillin Industry Park.

The Executive Summary of the SR 162 Resident and Business Survey Summary Results is presented in Appendix C of this RDP.

A copy of the entire SR 162 Resident and Business Survey Summary Results is on file in the WSDOT Olympic Region Planning Office.

7.3 Public Meetings

Table 7.3-1
SR 162 Route Development Plan Meetings Summary

MEETING	DATE	LOCATION	ATTENDEES
Initial Steering Committee Meeting Multi-Route: SR's 161, 162, 410	02/01/95	Pierce County Annex Conference Room C Tacoma, WA	Puget Sound Regional Council Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
2nd Steering Committee Meeting Multi-Route: SR's 161, 162, 410	03/01/95	Pierce County Annex Conference Room C Tacoma, WA	Puget Sound Regional Council Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. City of Bonney Lake City of Buckley City of Orting City of Puyallup Town of South Prairie City of Sumner WSDOT Office of Urban Mobility WSDOT Olympic Region Planning WSDOT Tumwater Project Office
3rd Steering Committee Meeting Last meeting with Multi-Route: SR's 161, 162, 410	04/12/95	Pierce County Annex Conference Room C Tacoma, WA	Puget Sound Regional Council Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. Foothills Rails to Trails Coalition Pierce Transit City of Sumner City of Bonney Lake WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Executive Interview City of Sumner	07/07/95	Sumner City Hall Sumner, WA	City of Sumner WSDOT Olympic Region Planning
Executive Interview City of Orting	07/26/95	City Hall Council Chambers Orting, WA	City of Orting WSDOT Olympic Region Planning
Executive Interview Pierce County	08/10/95	Pierce County Annex Building Tacoma, WA	Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Executive Interview WSDOT Olympic Region Program Development	09/20/95	WSDOT Olympic Region HQ Tumwater, WA	WSDOT Olympic Region Program Development WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Executive Interview WSDOT Office of Urban Mobility	09/25/95	WSDOT Office of Urban Mobility Seattle, WA	WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Information Sharing	10/23/95	WSDOT Olympic Region HQ Tumwater, WA	WSDOT Office of Urban Mobility WSDOT Olympic Region Planning

Table 7.3-1**SR 162 Route Development Plan Meetings Summary**

MEETING	DATE	LOCATION	ATTENDEES
4th Steering Committee Meeting	11/07/95	City Hall Council Chambers Orting, WA	Town of South Prairie City of Orting City of Sumner Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Information Sharing WSDOT Olympic Region	01/16/96	WSDOT Olympic Region HQ Tumwater, WA	Reg. Administrator, WSDOT OR WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
Open House	02/01/96	Multi-purpose Center Orting, WA	Public City of Orting Pierce Transit WSDOT Office of Urban Mobility WSDOT Olympic Region Planning
5th Steering Committee Meeting <i>Solutions Matrix Discussion to explore options</i>	03/12/96	City Hall Council Chambers Orting, WA	City of Orting City of Sumner Pierce Co. Public Works & Utilities WSDOT Olympic Region Planning
6th Steering Committee Meeting <i>Consensus reached on issues</i>	03/26/96	City Hall Council Chambers Orting, WA	City of Orting City of Sumner Puget Sound Regional Council WSDOT Olympic Region Planning
Meeting - Cascadia Employment-Based Community	06/23/96	WSDOT Olympic Region HQ Tumwater, WA	TDA Inc. (Cascadia Rep.) WSDOT Olympic Region Planning WSDOT Transportation Data Office
Meeting - Cascadia Employment-Based Community	07/15/96	Pierce County Annex Building Tacoma, WA	TDA Inc. (Cascadia Consultant) Kate & Warren (Cascadia Rep.) Pierce Co. Public Works & Utilities Pierce Co. Planning and Land Svcs. City of Orting City of Buckley WSDOT Olympic Region Traffic WSDOT Olympic Region Planning
Meeting - Cascadia Employment-Based Community	08/07/96	Pierce County Annex Building Tacoma, WA	TAD Inc. (Cascadia Rep.) Pierce Co. Planning and Land Svcs. WSDOT Olympic Region Traffic WSDOT Olympic Region Planning
7th Steering Committee Meeting	09/17/96	City Hall Council Chambers Orting, WA	City of Orting City of Sumner WSDOT Olympic Region Planning
Open House	09/25/96	Multi-purpose Center Orting, WA	Public City of Orting WSDOT Olympic Region Planning
Open House	09/26/96	City Hall Council Chambers Sumner, WA	Public City of Sumner WSDOT Olympic Region Planning
RDP Presentation	11/26/96	Antones Restaturant	Sumner Rotary Club

This chapter of the SR 162 Route Development Plan summarizes the recommended highway improvements introduced in Chapter 5 of this RDP. Mobility Improvement Projects are discussed in terms of estimated costs and recommended completion time frames. Safety Improvement projects have not been prioritized. Cost estimates were taken from available sources such as the current *WSDOT State Highway System Plan*. No new cost estimates have been provided as a result of this RDP. A more detailed description of these projects is provided in Chapter 5 of this RDP.

8.1 Short and Long Term Mobility Improvement Projects

Improvements to mobility deficiencies in urban and rural areas of the state are funded based upon urban and rural designations of the Growth Management Boundary. Allocation of urban and rural Mobility funds to each region is based on a combination of the region's prorated share of the total *Highway System Plan* mobility deficiencies and targeting top mobility deficiencies throughout the state.

It is important to note that presently the *WSDOT Highway System Plan* "financially constrained" list of mobility strategies does not include the capacity expansion improvements recommended in Chapter 5 of this Route Development Plan. SR 162 mobility strategies are presently listed in the "non-constrained" portion of the Highway System Plan.

Presently this means that any mobility improvements to SR 162 would not be funded for the next 20 years.

The SR 162 Route Development Steering Committee understands the present *State Highway System Plan* status of mobility projects for SR 162. The Committee, however, also recognizes present highway operating conditions that do not meet current *Highway System Plan* action strategies, such as maintaining a level of service (LOS) D in Urban areas, or LOS C in Rural sections.

Therefore this RDP recommends that SR 162 be reevaluated during future *Highway System Plan* updates. Perhaps at that time SR 162 will prioritize higher, allowing some or all of the mobility improvements to be placed in the 20 year "constrained" list.

Table 8.1-1
State Route 162 Recommended Mobility Projects

Project Description	Estimated Cost *
SR 410 to 128th St. E MP 0.00 to MP 6.11 Widen to 4 lanes	\$11.0 to \$ 14.6 Million
128th St. E to Orville Rd. E MP 6.11 to MP 10.97 Widen to 4 lanes and One-way couplet in Orting	\$20.8 to \$31.2 Million

Source: WSDOT - *State Highway System Plan*,

* Note: The above costs are taken from the present *State Highway System Plan*. In some cases this Route Development Plan recommends mobility improvements that are somewhat different than those contained in the *State Highway System Plan*. For these cases, a note is included in Chapter 5. For example, in the City of Orting, a one-way couplet system is proposed, beginning near the intersection of Whitesell Street and ending at the intersection with Corrin Avenue. The current *Highway System Plan* cost estimate for this vicinity represents costs of widening the existing highway through the City, not constructing a couplet. This RDP should be consulted when future updates are made to the *WSDOT Highway System Plan*.

8.2 Safety Improvement Projects

Safety improvement Projects are programmed similar to Mobility projects. They are ranked according to Cost/Benefit Analyses. This Route Development Plan does not address time frame for completion of the Safety Improvement Projects. However, they are listed with associated cost estimates.

The Safety Improvement strategies discussed in Chapter 5 of this RDP are shown below as recommended projects, with their respective estimated costs.

State Route 162
Recommended Safety Projects
SR 410 to SR 162

Project Description	Estimated Cost
MP 0.00 to MP 7.50, HAC, Cross-section/Geometric, signals, misc. access treatments (EQ 0.83=3.21)	\$3.91 to \$5.21 Million
MP 4.82 to MP 5.42, Risk,	\$0.00 (Included in Accident Reduction Solution)
MP 8.50 to MP 10.00, HAC, Channelization	\$0.14 to \$0.19 Million
MP 9.33 to MP 9.42, Risk,	\$0.00 (Included in Accident Reduction Solution)
MP 9.85 to MP 9.95, Risk,	\$0.00 (Included in Accident Reduction Solution)
MP 10.95 to MP 11.01, Risk, Realignment	\$0.16 to \$0.22 Million
MP 11.44 to MP 11.64, Risk, Realignment and new structure	\$2.48 to \$3.31 Million
MP 13.02 to MP 13.07, Risk, Realignment and new structure	\$0.71 to \$0.95 Million
MP 14.50 to MP 14.96, Risk, Cross-section/Geometric improvements	\$0.19 to \$0.25 Million

Appendix A: Accident History and Analysis

Information regarding recent traffic accident data for SR 162 was prepared by the WSDOT Planning and Programming Service Center, Transportation Data Office in Olympia, Washington. The accident information is presented through a series of tables on the following pages. The information provided in these summary tables may be used to determine leading causes of accidents, accident rates, and conditions of the roadway during the accidents.



Date: May 10, 1996

From: RLW Ralph Wessels/Brian Limotti

Phone: 753-6182 / 753-2935

Accident Data

To: Chris Schroedel
Olympic Region
Mail Stop: WA-48

In response to your April 20 request for the highway segments you specified, we have prepared accident rates (including critical rates) and comparisons of leading collision types, objects struck, driver 1 first contributing cause, road surface, alcohol involvement, most severe injury, month of accident and day of week of accident with the 1994 Traffic Accident Profile (TAP). The TAP figures we used for comparison purposes were for non-interstate highways within the Olympic Region. This data covered the period from January 1, 1990 through October 31, 1995 and was for the following areas:

- (Site 1) SR 161 at 234th Avenue to 176th Avenue (MP 17.58 to 21.35)
- (Site 2) SR 161 at 176th to 128th (MP 21.36 to 24.23)
- (Site 3) SR 161 at 128th to SR 512 Interchange (MP 24.24 to 25.85)
- (Site 4) SR 161 at Valley Avenue/SR 167 on/off ramps to 36th (MP 28.73 to 30.34)
- (Site 5) SR 161 at 36th to King County Line (MP 30.35 to 32.55)
- (Site 6) SR 162 at SR 410 Interchange to Military Road (MP 0.00 to 5.35)
- (Site 7) SR 162 at Military Road to Oroville Road (MP 5.36 to 10.97)
- (Site 8) SR 162 at Oroville Road to SR 165 Wye Connection (MP 10.98 to 19.78)
- (Site 9) SR 410 at SR 167 Interchange to Myers Road (MP 8.84 to 13.13)
- (Site 10) SR 410 at Myers Road to 214th (MP 13.14 to 15.60)
- (Site 11) SR 410 at 214th to Hinkleman Ext. Road (MP 15.61 to 20.40)
- (Site 12) SR 410 at Hinkleman Ext. Road to King County Line (MP 20.41 to MP 22.02)

There was insufficient traffic volume data to calculate accident rates for 1995. 40 hours of staff time needed to respond to this request has been charged to PL 6133 01 0525. If we can be of any further help, please contact Brian Limotti at 360 753-2935.

RLW:kw

BTL

Attachments

SR 162 MP 0.00 to 5.35
SR 410 to Military Road

SITE #
6

Leading Collision Types	1/1/90 to 10/31/95 %	1994 TAP %
REAREND, SD, 1 STP	23.1	24.7
VEH HIT FIXED OBJ	19.8	17.4
ENTER AT ANGLE	18.7	11.0
REAREND, SD, BM	6.0	7.2
DRIVEWAY ENTER	4.4	4.2
SIDESWIPE, OD, BM	4.4	11.1

Leading Objects Struck	1/1/90 to 10/31/95 %	1994 TAP %
UTILITY POLE	36.1	5.9
FENCE	25.0	3.5

Surface Conditions

Dry	65.4	64.6
Wet	31.9	28.7
Ice	2.7	6.7
Snow	0.0	1.0

Weekday	1/1/90 to 10/31/95 %	1994 TAP %
MON	17.0	14.1
TUES	16.5	14.7
WED	18.1	17.0
THUR	9.3	11.1
FRI	16.5	17.2
SAT	14.8	13.0
SUN	7.7	10.7

Driver 1 Leading Contributing Causes	1/1/90 to 10/31/95 %	1994 TAP %
UND INFL OF ALCOHOL	22.7	17.3
FAIL TO YIELD ROW	21.9	17.7
EX SAFE SPEED	16.4	27.0
FOLLOW TOO CLOSE	11.7	11.1
INATTENT/ASLEEP	10.2	10.2
OVER CTR LINE	4.7	10.2

Alcohol Involvement

HBD ABILITY IMP	18.1	18.1
HBD ABILITY NOT IMP	2.2	2.2
HBD SOB UNKNOWN	2.2	2.2
HAD NOT BN DRINKG	57.7	57.7
UNKNOWN	19.8	19.8

Most Severe Injury

NO INJURY	48.4	48.4
POSSIBLE INJ	28.9	28.9
EVIDENT INJ	14.8	14.8
DISABLING	7.7	7.7
DEAD	2.2	2.2

Month of Accident

Month of Accident	1/1/90 to 10/31/95 %	1994 TAP %
JAN	8.2	6.6
FEB	6.0	5.2
MAR	6.6	5.2
APR	8.8	5.2
MAY	11.5	5.2
JUN	3.8	5.2
JUL	9.3	5.2
AUG	12.8	5.2
SEPT	7.7	5.2
OCT	11.0	5.2
NOV	8.8	5.2
DEC	5.5	10.8

This area has a higher than average accident rate compared to the avg. accident rate for urban collectors.

Drivers under the influence of alcohol contributed to 22.7% of the accidents in this study, 15.4% higher than the TAP. The percent of drivers who had been drinking with impaired ability were nearly 3 times the TAP figures.

Rearend collisions in which one vehicle was stopped was the leading collision type, but was less than the TAP. Entering at an angle was the leading cause for 34 accidents in this study and was 7.7% over the TAP.

SR: 162		SR 410 INTERCHANGE TO MILITARY ROAD				
FROM MP: 0.00		TO MP: 5.35		LENGTH: 2.97 MILES		
	1990	1991	1992	1993	1994	1995
NUMBER OF ACCIDENTS	34	37	28	25	28	30
ANNUAL AVERAGE DAILY TRAFFIC	N/A	4,100	4,300	4,300	4,200	N/A+
NUMBER OF DAYS	365	365	365	365	365	365
ACCIDENT RATE PER MVM*		8.3	6.0	5.4	6.1	N/A+
AVERAGE ACCIDENT RATE PER MVM* FOR COMPARABLE STATE HIGHWAYS	3.7	3.3	3.3	3.5	4.2	N/A+
URBAN COLLECTOR						
CRITICAL RATE**	ERR	4.6	4.6	4.8	5.7	N/A+
<div>*Million Vehicle Miles + Not Available **The critical rate is a statistically derived value that is used to determine the level the accident rate at a specific location must exceed for that location to be termed a critical location. It is based on comparing the accident rate at a specific location with the average accident rate for comparable types of highways.</div>						
PREPARED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION PLANNING AND PROGRAMMING SERVICE CENTER TRANSPORTATION DATA OFFICE						

SR 162 MP 5.36 to 10.97
Military Road to Oroville Road

SITE 7

Leading Collision Types	11/1/90 to 10/31/95 %	1994 TAP %
VEH HIT FIXED OBJ	26.3	17.4
REAREND, SD, 1 STP	10.8	24.7
DRIVEWAY ENTER	10.8	4.2
ENTER AT ANGLE	10.2	11.0

Leading Objects Struck	11/1/90 to 10/31/95 %	1994 TAP %
UTILITY POLE	37.8	5.9
FENCE	24.4	3.5

Surface Conditions	11/1/90 to 10/31/95 %	1994 TAP %
Dry	61.1	64.6
Wet	29.9	28.7
Ice	8.4	5.7
Snow	0.6	1.0

Weekday	11/1/90 to 10/31/95 %	1994 TAP %
MON	12.0	14.1
TUES	14.4	11.0
WED	9.6	12.0
THUR	10.8	7.1
FRI	19.8	15.2
SAT	20.4	14.0
SUN	13.2	11.0

Driver 1 Leading Contributing Causes	11/1/90 to 10/31/95 %	1994 TAP %
EX SAFE SPEED	33.3	22.0
UND INFL OF ALCOHOL	13.3	11.0
FAIL TO YIELD ROW	13.3	11.0
FOLLOW TOO CLOSE	10.8	11.0
INATTENT/ASLEEP	10.0	11.0

Alcohol Involvement	11/1/90 to 10/31/95 %	1994 TAP %
HBD ABILITY IMP	10.8	11.0
HBD ABILITY NOT IMP	6.6	11.0
HBD SOB UNKNOWN	8.0	11.0
HAD NOT BN DRINKG	64.1	11.0
UNKNOWN	16.5	11.0

Most Severe Injury	11/1/90 to 10/31/95 %	1994 TAP %
NO INJURY	50.3	44.4
POSSIBLE INJ	28.1	44.4
EVIDENT INJ	19.2	44.4
DISABLING	2.1	44.4
DEAD	3.0	44.4

Month of Accident	11/1/90 to 10/31/95 %	1994 TAP %
JAN	10.8	13.3
FEB	5.4	13.3
MAR	4.2	13.3
APR	8.4	13.3
MAY	4.8	13.3
JUN	9.6	13.3
JUL	7.2	13.3
AUG	15.0	13.3
SEPT	7.8	13.3
OCT	11.4	13.3
NOV	9.6	13.3
DEC	6.0	13.3

Traffic volumes are largely unavailable for this segment. It appears that the total number of accidents have declined over the 5 years of this study. The avg. accident rate for 1994 is only slightly higher than the region's avg. accident rate for rural collectors.

There is a higher than average incidence of vehicles striking fixed objects in this area, with utility poles the most common object struck.

Fatal accidents are over 2% higher than the avg. for the region. This area also has nearly double the percentage of August accidents compared to the TAP.

SR 162 MP10.98 to 19.78
Oroville Road to SR 165 Wye Connection

SITE #
8

Leading Collision Types	1/1/90 to 10/31/95 %	1994 TAP %
VEH HIT FIXED OBJ	48.1	17.4
OVERTURN	12.3	5.1
ENTER AT ANGLE	6.8	11.0
DRIVEWAY ENTER	6.2	4.2

Leading Objects Struck	1/1/90 to 10/31/95 %	1994 TAP %
NOT THRU GR DRAIN	23.1	12.1
UTILITY POLE	17.9	12.1
EARTH BANK	14.1	12.1
DITCH	10.3	12.2
FENCE	10.3	3.7

Surface Conditions	1/1/90 to 10/31/95 %	1994 TAP %
Dry	70.4	64.6
Wet	24.7	28.7
Ice	3.7	5.7
Snow	1.2	1.0

Weekday	1/1/90 to 10/31/95 %	1994 TAP %
MON	13.6	13.1
TUES	17.3	17.1
WED	9.3	11.0
THUR	16.0	11.1
FRI	14.2	11.2
SAT	17.9	11.2
SUN	11.7	11.2

Driver 1 Leading Contributing Causes	1/1/90 to 10/31/95 %	1994 TAP %
EX SAFE SPEED	35.7	11.5
UND INFL OF ALCOHOL	26.4	11.5
INATTENT/ASLEEP	19.4	11.5
FAIL TO YIELD ROW	8.2	11.5

Alcohol Involvement	1/1/90 to 10/31/95 %	1994 TAP %
HBD ABILITY IMP	22.2	11.5
HBD ABILITY NOT IMP	1.9	11.5
HBD SOB UNKNOWN	2.8	11.5
HAD NOT BN DRINKG	64.3	11.5
UNKNOWN	19.1	11.5

Most Severe Injury	1/1/90 to 10/31/95 %	1994 TAP %
NO INJURY	43.8	11.5
POSSIBLE INJ	21.6	11.5
EVIDENT INJ	27.3	11.5
DISABLING	4.3	11.5
DEAD	2.5	11.5

Month of Accident	1/1/90 to 10/31/95 %	1994 TAP %
JAN	4.9	11.5
FEB	9.9	11.5
MAR	6.8	11.5
APR	8.0	11.5
MAY	8.0	11.5
JUN	6.8	11.5
JUL	9.9	11.5
AUG	10.5	11.5
SEPT	8.0	11.5
OCT	11.7	11.5
NOV	6.2	11.5
DEC	9.3	11.5

The accident rate in this area is close to the average for rural collectors.

The leading collision type, vehicles striking fixed objects is 30.7% over the avg. for the region. The leading objects struck are guardrails.

Exceeding safe speed is the leading driver contributing cause, exceeding the regional avg. by 13.7%.

**PIERCE COUNTY NON MOTORIZED FACILITIES PLAN
IMPROVEMENTS PLANNED FOR THE SR 162 REGION**

COUNTY PROJECT ID #	PROJECT LOCATION	PROPOSED FACILITY	ESTIMATED COST	COUNTY PRIORITY
------------------------	------------------	-------------------	----------------	--------------------

STATE HIGHWAYS WITH PROPOSED NONMOTORIZED IMPROVEMENTS

EB	SR 162-Calistoga Ave (Orting) to Spring Site Rd. E	Paved shoulders		State
EE	SR 162-SR 410 to Calistoga Ave (Orting)	Paved shoulders	Exists	Exists
EG	SR 162- Spring Site Rd. E to SR 165	Paved shoulders	Exists	Exists

PIERCE COUNTY PROPOSED TRAILS

E35A	Foothills Trail-Linden Bridge(Puyallup) to Cascade Junction(S. Prairie)	Trail	\$5,549,000	Premier
E35B	Foothills Trail-Cascade Junction to Carbonado	Trail	\$2,155,000	Premier
E35C	Foothills Trail-Cascade Junction to King C/L	Trail	\$2,784,000	Premier

PIERCE COUNTY ROADWAY IMPROVEMENTS

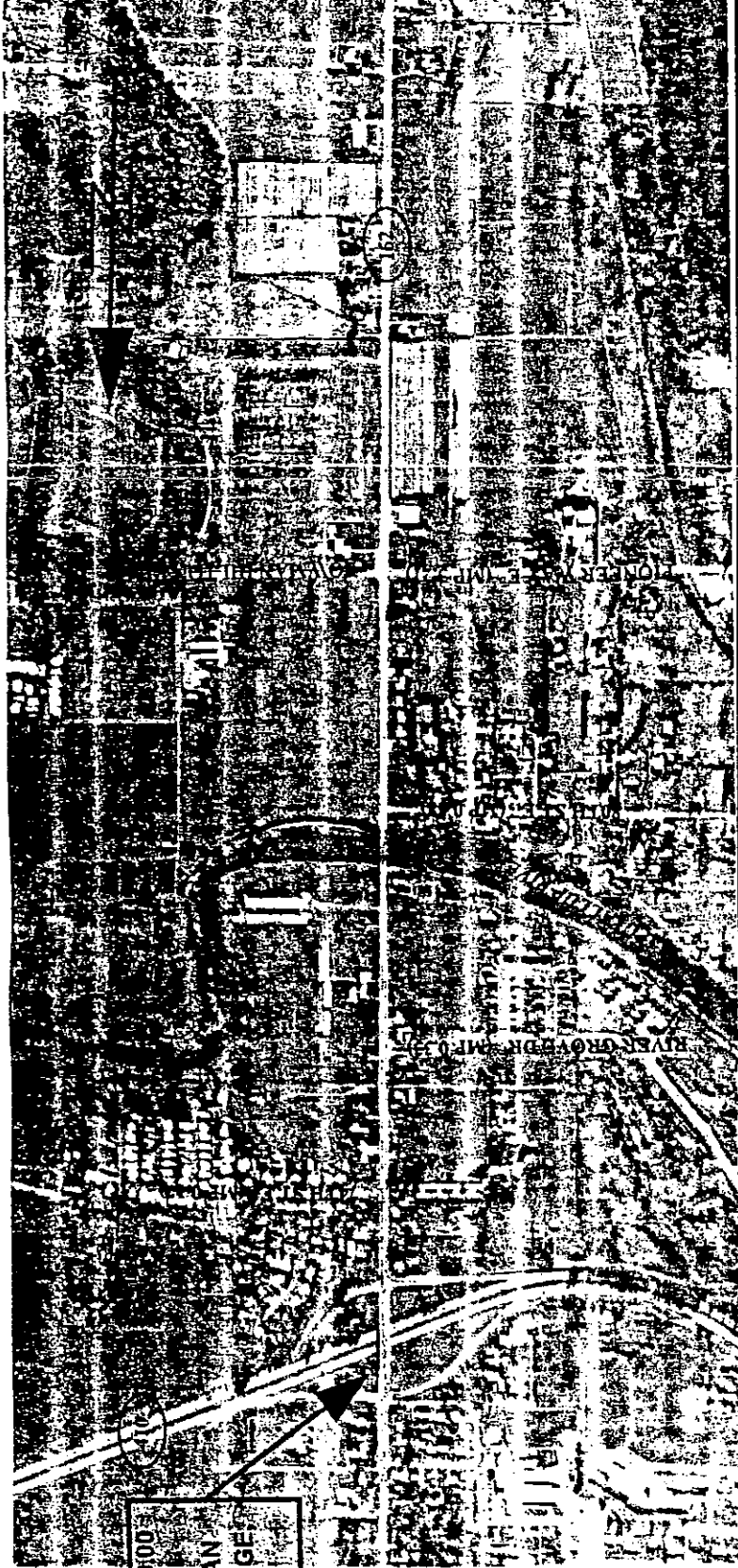
E18	96 St E/Riverside Dr/74 St -SR 162 to SR 162	Paved shoulders or wide lanes	\$809,000	Medium
M76	Pioneer Wy E-Puyallup C/L(Shaw) to SR 162	Paved shoulders or trail	\$364,000	Medium
M54	122 St E/Military Rd E-Shaw Rd E to SR 162	Paved shoulders	\$342,000	High
E27	128 St E/McCutcheon Rd-SR 162 to 96 St E	Paved shoulders or wide lanes	\$750,000	Low
EO1	Calistoga Ave-Orting C/L to Carbon River	Bicycle and/or Pedestrian Facility		City
E29	Orville Rd E-Electron Rd(288 St E) to SR 162	Paved shoulders or wide lanes	\$1,859,000	Low
E23	S Prairie-Carbon River Rd-SR 162(Carbon River) to S Prairie C/L	Wide lanes or surface overlay	\$1,048,000	Medium

PIERCE COUNTY PROPOSED TRAILS

M110	American Lk-McMillan Trail(City water-134 Ave E)-144 St E to 131 St E	Trail	\$461,000	Medium
E37	Orting to Kapowsin Rail Trail-Foothills trail to	Trail	\$2,501,000	High

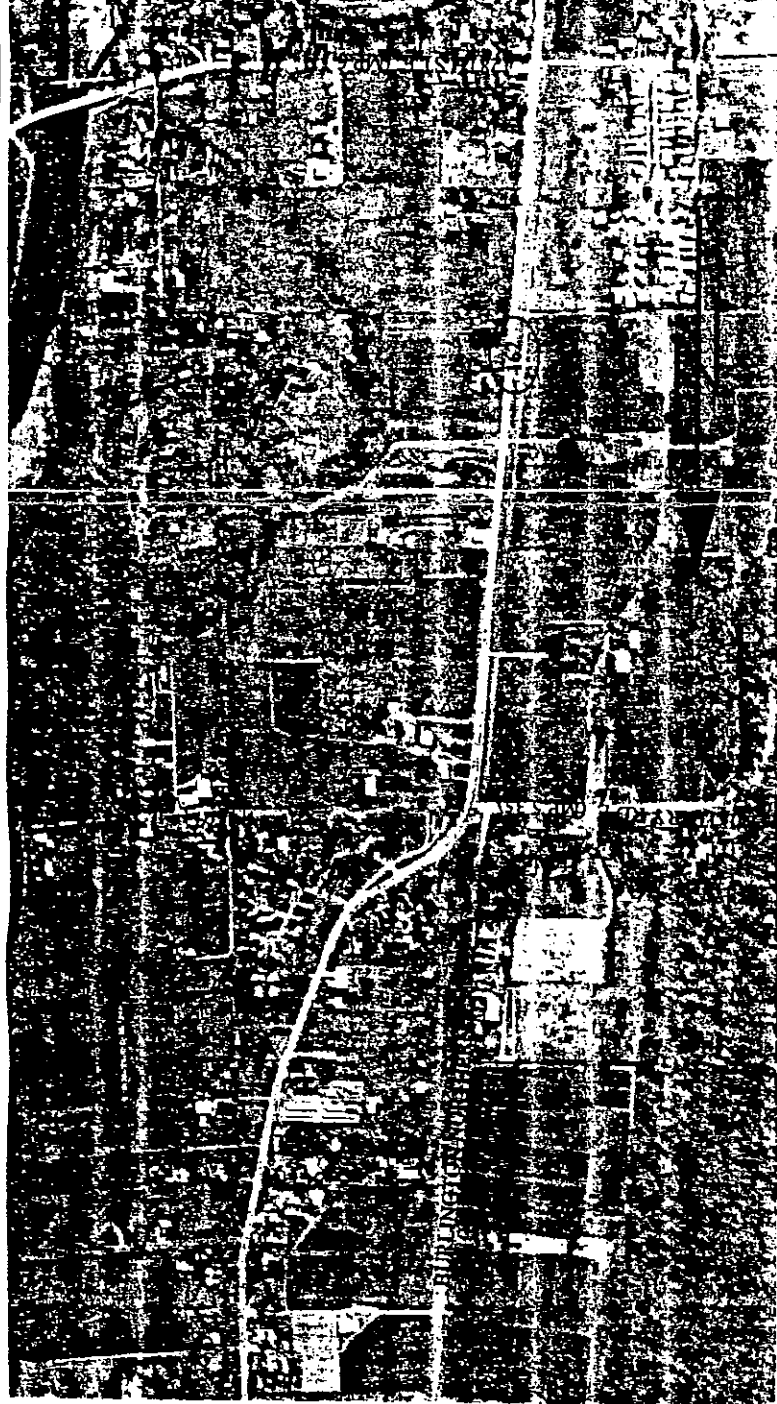
Appendix B: Route Continuity Maps

BEGIN SR 162, MP 0.00
 BEGIN ROUTE
 DEVELOPMENT PLAN
 SR 410 INTERCHANGE
 SUMNER, WA



ENTER SUMNER MP 0.00 74th St E	ENTER SUMNER MP 0.33 Pioneer Way E	EQ: MP 0.58 EX. 5 MP 3.21 AHD.
MILEPOST AND LANDMARKS	MP 0.14 74th St E River Grove Dr	MP 0.33 River Grove Dr 80th St E
FUNCTIONAL CLASS	"FEDERAL"	TACOMA ORGANIZED AREA, MINOR ARTERIAL
ROADSIDE CLASSIFICATION PLAN	CLASS 3 (TWLT)	CLASS 3, PEDESTAL CLASS 2
ACCESS MANAGEMENT PLAN CLASS	FULL CONT. MP 0.00 TO 0.1	NONE
MASTER PLAN FOR ACCESS CONTROL	MP 0.33	CHANNELIZATION
EXISTING TRAVELED WAY WIDTH	3-11' LANES 6' SHLDS.	2-11' LANES 6' SHLD.
EXISTING ROADWAY WIDTH	CHANNEL	2-11' LANES 6' SHLD.
PROPOSED TRAVELED WAY WIDTH	CAPACITY SOLUTION: ADD THRU LANES 5-12' LANES, STRIVE TO KEEP 6' SHLDS.	CAPACITY SOLUTION: ADD ONE THRU LANE

EXISTING RIGHT-OF-WAY PROPOSED RIGHT-OF-WAY	MP 0.8 30' LT & RT	MP 0.8 30' RT & 20' LT	MP 0.8 MP 3.24	20-55 LT & 30-55 RT	3
1995 AVERAGE DAILY TRAFFIC (ADT) TRUCK PERCENTAGE (INCLUDES RV'S)	80TH ST E	14506, D 69% 9%	PIONEER WAY 14149, D 71% 3%	NO ADDITIONAL R/W PROPOSED	3
PROJECTS IN 6 YEAR PLAN CONSTRUCTION BIENNium	NONE	5-LANE (TWLTZ)	PIONEER WAY	4-LANES W/	3
EXISTING TRAFFIC SIGNALS PROPOSED TRAFFIC SIGNALS (WHEN WARRANTED)	RAMP TERMINAL SIGNALS	MP 0.33	RIVER GROVE SIGNAL	PIONEER WAY	3
COLLISION REDUCTION CORRIDORS (HAC) COLLISION PREVENTION LOCATIONS (RISK)	MP 0.00 TO MP 7.5	MP 0.00 TO MP 7.5	MP 0.00 TO MP 7.5	EXISTING PAVED SHLDS ON SR FOOT HILLS TRAIL EXT. & P	3
EXISTING NON-MOTORIZED FACILITIES PROPOSED NON-MOTORIZED FACILITIES	EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	PIERCE TRANSIT RT 403 (SEE SECTION 5.8)	3
EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	NONE (SEE SECT. 5.8)	3



MILEPOST AND LANDMARKS	MP 4.7 VIC.	MP 5.18 115TH ST E	MP 5.35 MILITARY RD E	ENT. MCALLIN MP 6	128TH ST E
FUNCTIONAL CLASS					
ROADSIDE CLASSIFICATION PLAN					
ACCESS MANAGEMENT PLAN CLASS					
MASTER PLAN FOR ACCESS CONTROL					
EXISTING TRAVELED WAY WIDTH					
EXISTING ROADWAY WIDTH					
PROPOSED TRAVELED WAY WIDTH					
PROPOSED ROADWAY WIDTH					

GENERAL TACOMA ORGANIZED AREA. MINOR ADJUSTMENT "STATE" ORGAN COLLECT

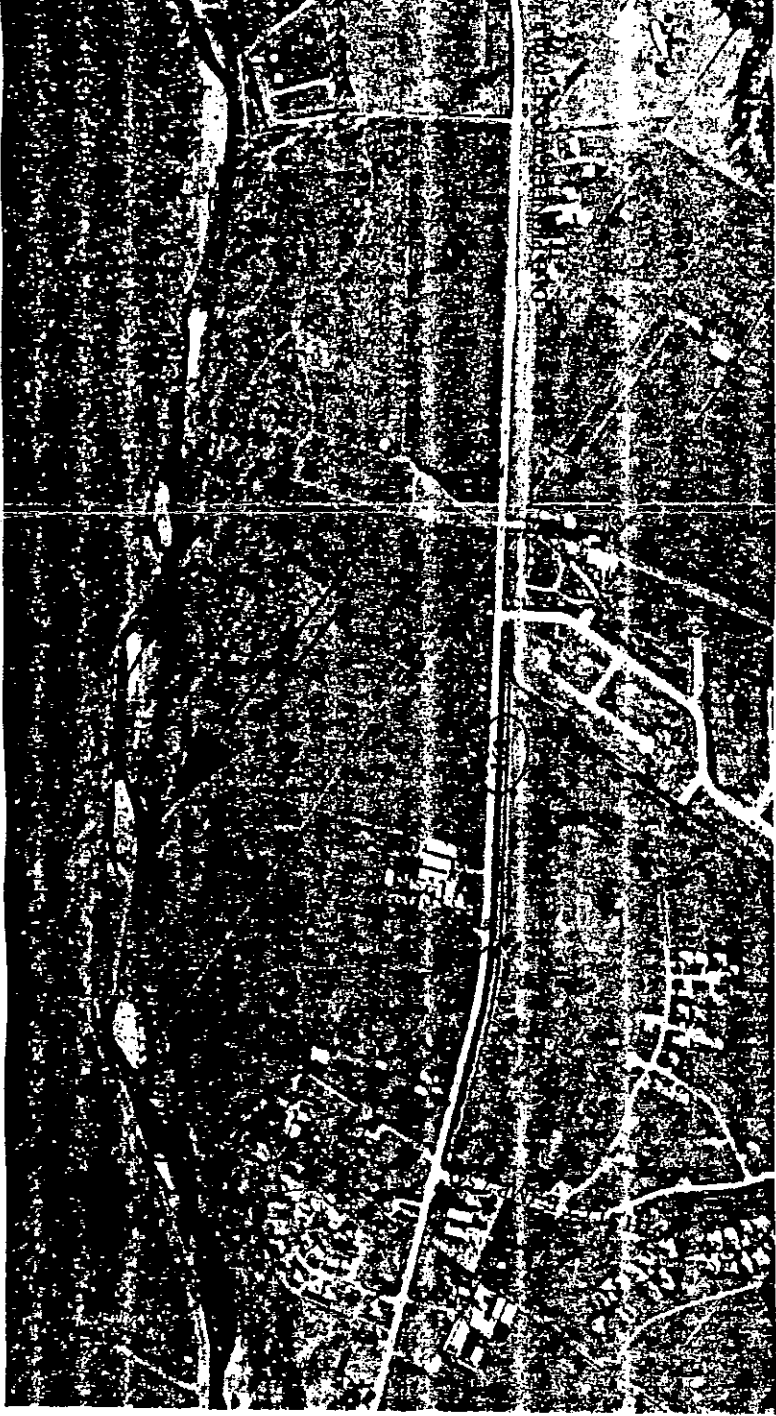
CLASS 3. PROPOSED CLASS 2 (MEDIAN BARRIER)

2-11' LANES, 4' SHLDS.

2-11.5' LANES 3' SHLD

CAPACITY SOLUTION: ADD ONE THRU LANE EACH DIRECTION. USE MEDIAN BARRIER (SEE PROPOSED SIGNAL LIST FOR INTERSECTIONS SELECTED TO REMAIN ONE

EXISTING RIGHT-OF-WAY PROPOSED RIGHT-OF-WAY	MP 4.7 VIC 30' RT & 30' LT MP 5.19 30'-100' LT & 30'-80' RT MP 5.35
1995 AVERAGE DAILY TRAFFIC (ADT) TRUCK PERCENTAGE (INCLUDES RV'S)	NO ADDITIONAL RW PROP
PROJECTS IN 6 YEAR PLAN CONSTRUCTION BIENNIIUM	NONE
LONG RANGE MOBILITY NEEDS	WIDEN TO A 4-LANE FACILITY, USING MEDIAN BARRIER
EXISTING TRAFFIC SIGNALS PROPOSED TRAFFIC SIGNALS (WHEN WARRANTED)	128TH MILITARY RD
COLLISION REDUCTION CORRIDORS (HAC) COLLISION PREVENTION LOCATIONS (RISK)	MP 0.00 TO MP 7.50 MP 4.02 MP 5.42
EXISTING NON-MOTORIZED FACILITIES PROPOSED NON-MOTORIZED FACILITIES	EXISTING PAVED SHOUL FOOTHILLS TRAIL EXT. 3 PAVE
EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	PIERCE TRANSIT RT. 403 (SEE SECTION 5.8)
EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	NONE (SEE SECTION 5.8)



VIC. MP 7.2

MP 7.2
W.C.

MILEPOST AND
LANDMARKS

MP 7.54
149TH ST. CT. E

MP 8 ENT. ORTING
MP 8.06

OLD ROAD
MP 8.06

FUNCTIONAL CLASS

"FEDERAL" RURAL MAJOR COLLECTOR

"STATE" RURAL COLLECTOR

ROADSIDE CLASSIFICATION PLAN

RURAL

SEMIURBAN -
MP 8.48

ACCESS MANAGEMENT PLAN CLASS
MASTER PLAN FOR ACCESS CONTROL

CLASS 4 (TWLT)

NON

EXISTING TRAVELED WAY WIDTH

2-11' LANES, 4' SHLDS

EXISTING ROADWAY WIDTH

PROPOSED TRAVELED WAY WIDTH
PROPOSED ROADWAY WIDTH

MP 7.1

CAPACITY SOLUTION: WIDEN TO A 5 LANE FACILITY WITH CENTER TWLT LANE 8-12' LA

EXISTING RIGHT-OF-WAY	MP 7.2 VIC	30' LT & 30' RT	40' LT & 30' RT MP 8.32	MP 8.49	30' LT & 30' RT
PROPOSED RIGHT-OF-WAY			No ADDITIONAL R/W NEEDED		
1995 AVERAGE DAILY TRAFFIC (ADT)					old P
TRUCK PERCENTAGE (INCLUDES RV'S)					
PROJECTS IN 6 YEAR PLAN CONSTRUCTION BIENNIIUM					NONE
LONG RANGE MOBILITY NEEDS			WIDEN TO A 4 OR 5 LANE FACILITY, USING RAISED ISLANDS AS MEAS OR TWLTZ (IF WARRANTED)		
EXISTING TRAFFIC SIGNALS PROPOSED TRAFFIC SIGNALS					
COLLISION REDUCTION CORRIDORS (HAC) COLLISION PREVENTION LOCATIONS (RISK)			(SEE PREVIOUS) MP 7.5	MP 8.5	MP 8.5 TO MP
EXISTING NON-MOTORIZED FACILITIES PROPOSED NON-MOTORIZED FACILITIES			EXISTING PAVED SHLDS ON SR 162 FOOTHILL TRAILS-LINDEN BR. TO CASCADE JCT		
EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES			PIERCE TRANSIT RT. #403 SEE SECTION 5-B		
EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS			NONE (SEE SECTION 5-B)		

MP 8.85
VIC

VARIES: LT. 30'-40' RT. 30'-40'

CALISTOGA ST.
MP 9.54

9300 D 70%
3%

OLD PIONEER WAY E TO VIC ORVILLE RD E, ACP OVERLAY - PE 1995, CN1997

14TH TO WHITESELL
WIDEN TO 4 OR 5
LANE FACILITY

WHITESELL
ST.

PROVIDE ONE-WAY
COUPLET SYSTEM
USING SR 162 (WB) &
CORBIN AVE (SB)
EACH DIRECTION TO HAVE
2 TRAVEL LANES

CORBIN
AVE

CORBIN AVE TO ORVILLE RD

WHITESELL
(POSSIBLY)

CALISTOGA

CORBIN
(POSSIBLY)

KANSAS AVE
MP 10.0

MP 8.5 TO MP 10.0

MP 9.23
TO
MP 9.42

MP 7.85
TO
MP 7.93

EXISTING NON-MOTORIZED FACILITIES
PROPOSED NON-MOTORIZED FACILITIES

FOOTHILLS TRAIL & SHLDS / SIDEWALK
SAME AS ABOVE

EXISTING TRANSIT FACILITIES
KNOWN PROPOSED TRANSIT FACILITIES

PIERCE TRANSIT RT #403
(SEE SECTION 5.8)

EXISTING PARK & RIDE LOTS
PROPOSED PARK & RIDE LOTS

NONE
(SEE SECTION 5.8)

EXISTING RIGHT-OF-WAY	VARIES: 27' 30' MIN	RT: 30' MIN	
PROPOSED RIGHT-OF-WAY			
1995 AVERAGE DAILY TRAFFIC (ADT)			
TRUCK PERCENTAGE (INCLUDES RV'S)	4400 D 56%	7.1%	
PROJECTS IN 6 YEAR PLAN	VOIGHTS CREEK, MP 11.49	MP 11.74	
CONSTRUCTION BIENNIUM	VOIGHTS CREEK VIC. REALIGN	1993 PE, 1994 RW	
LONG RANGE MOBILITY NEEDS	BR. REPLACEMENT	1991 PE	NONE
EXISTING TRAFFIC SIGNALS			
PROPOSED TRAFFIC SIGNALS			
COLLISION REDUCTION CORRIDORS (HAC)			
COLLISION PREVENTION LOCATIONS (RISK)			
EXISTING NON-MOTORIZED FACILITIES			EXISTING PAVED SHLDS.
PROPOSED NON-MOTORIZED FACILITIES			FOOTHILL TRAILS-LINDEN BR. (PUYALLUP) TO CASCADE JCT
EXISTING TRANSIT FACILITIES			NONE
KNOWN PROPOSED TRANSIT FACILITIES			(SEE SECTION 5.8)
EXISTING PARK & RIDE LOTS			NONE
PROPOSED PARK & RIDE LOTS			(SEE SECTION 5.8)

MP 11.39
VIC.

MP 11.44 TO
MP 11.64

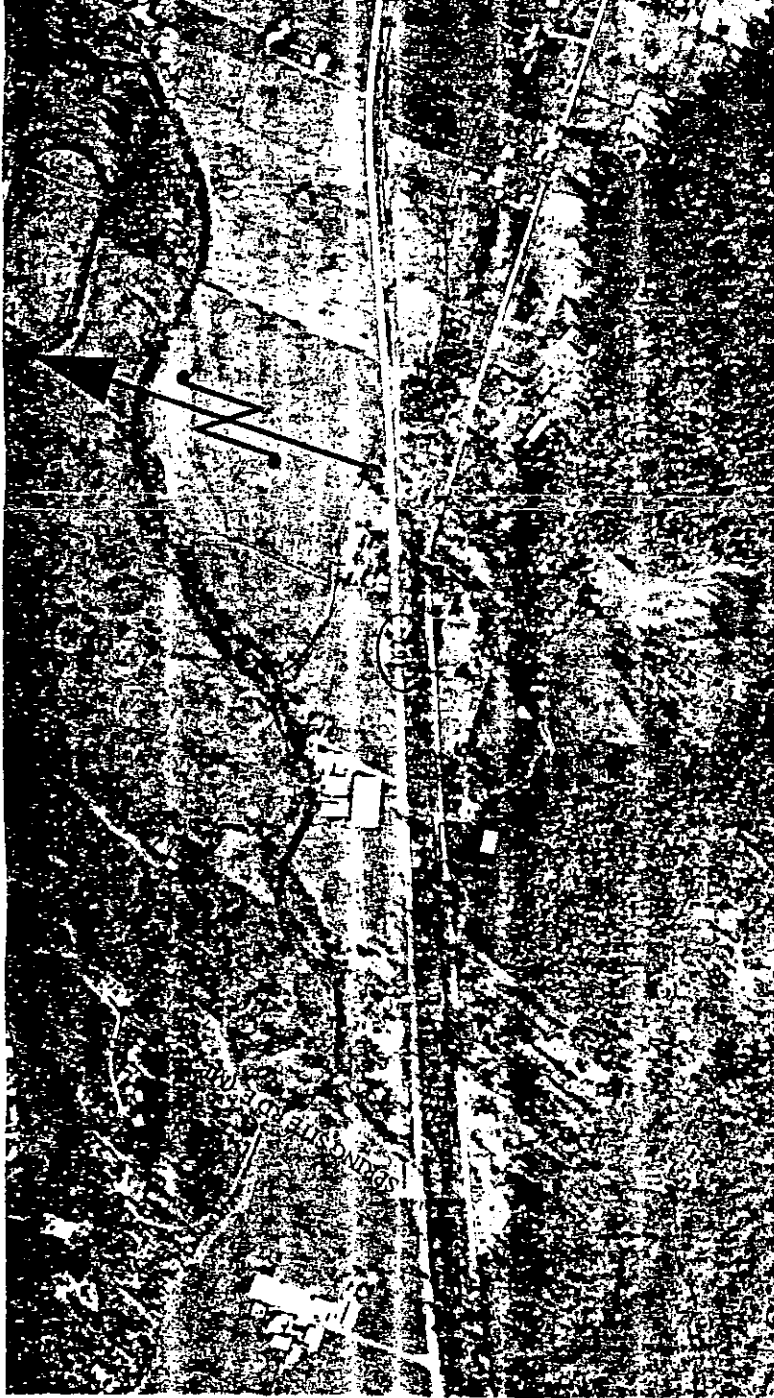


VIC MP 13.8

MP 13.8
VIC

MILEPOST AND LANDMARKS	SOCALP CREEK PRAIRIE RD. MP 13.87
FUNCTIONAL CLASS ROADSIDE CLASSIFICATION PLAN	"FEDERAL" RURAL PAVES COLLECTOR RURAL
ACCESS MANAGEMENT PLAN CLASS MASTER PLAN FOR ACCESS CONTROL	CLASS 2 (MEDIAN BARRIER) NON
EXISTING TRAVELED WAY WIDTH EXISTING ROADWAY WIDTH	BR. 32' C-C 2-11' LANES, 3' SHOULDERS
PROPOSED TRAVELED WAY WIDTH PROPOSED ROADWAY WIDTH	SAME AS EXISTING

EXISTING RIGHT-OF-WAY PROPOSED RIGHT-OF-WAY	VARIES; LT: TYP = 30', VARIES 30' - 90' RT: TYP = 30', VARIES 30' - 90'
1995 AVERAGE DAILY TRAFFIC (ADT) TRUCK PERCENTAGE (INCLUDES RV'S)	3900, D 56% 9.4 %
PROJECTS IN 6 YEAR PLAN CONSTRUCTION BIENNium	NONE
LONG RANGE MOBILITY NEEDS	NONE
EXISTING TRAFFIC SIGNALS PROPOSED TRAFFIC SIGNALS	NONE NONE
COLLISION REDUCTION CORRIDORS (HAC) COLLISION PREVENTION LOCATIONS (RISK)	MP 14.50 TO MP 14.96 EXISTING PAVED SHLDS. ON SR 162 PAVED SHLDS. & FOOTHILLS TRAIL
EXISTING NON-MOTORIZED FACILITIES PROPOSED NON-MOTORIZED FACILITIES	NONE (SEE SECT. 5.B)
EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	NONE (SEE SECT. 5.B)
EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	NONE (SEE SECT. 5.B)



V16. MP 15.7

MP 15.70
VIC.

SPRING SITE RD. E
MP 15.95

S. PRAIRIE CREEK
MP 15.99

"FEDERAL" RURAL MAJOR COLLECTOR

"STATE"

PURPL

BR 32' C-C

2-11' LANES, 5' SHOULDS.

PROPOSED TRAVELED WAY WIDTH

SAME AS EXISTING

MP
15.7
VIC.

VARIES: LT: TYPE 30' (VARIES 30'-75') RT: TYPE 30'

EXISTING RIGHT-OF-WAY

PROPOSED RIGHT-OF-WAY

1995 AVERAGE DAILY TRAFFIC (ADT)

TRUCK PERCENTAGE (INCLUDES RV'S)

PROJECTS IN 8 YEAR PLAN

CONSTRUCTION BIENNIIUM

NONE

LONG RANGE MOBILITY NEEDS

NONE

EXISTING TRAFFIC SIGNALS

PROPOSED TRAFFIC SIGNALS

NONE

NONE

COLLISION REDUCTION CORRIDORS (HAC)

COLLISION PREVENTION LOCATIONS (RISK)

EXISTING NON-MOTORIZED FACILITIES

PROPOSED NON-MOTORIZED FACILITIES

EXISTING PAVED SHLDS. ON SR
SAME AS ABOVE + FOOTPATHS

EXISTING TRANSIT FACILITIES

KNOWN PROPOSED TRANSIT FACILITIES

NONE

(SEE SECT. 5.8)

EXISTING PARK & RIDE LOTS

PROPOSED PARK & RIDE LOTS

NONE

(SEE SECT. 5.8)



VIC. MP 18.0

MP 18
VIC.

MP 18

VIC. MP 19

MUNDY LANE
MP 19.51

LOWER BURNETT RDE
MP 18.42

"FEDERAL" RURAL MAJOR COLLECTOR

"STATE" RURAL COLL
RURAL

CLASS 2 (MEDIAN BARRIER)

2.15' LANES, 4' SHOULDS.

SAME AS EXISTING

MILEPOST AND

LANDMARKS

FUNCTIONAL CLASS

ROADSIDE CLASSIFICATION PLAN

ACCESS MANAGEMENT PLAN CLASS

MASTER PLAN FOR ACCESS CONTROL

EXISTING TRAVELED WAY WIDTH

EXISTING ROADWAY WIDTH

PROPOSED TRAVELED WAY WIDTH

PROPOSED ROADWAY WIDTH

EXISTING RIGHT-OF-WAY PROPOSED RIGHT-OF-WAY	<div> <div> <div>MP 18</div> <div>VIC</div> </div> <div> <div>LT: 30'</div> <div>RT: 30'</div> </div> </div>
1995 AVERAGE DAILY TRAFFIC (ADT) TRUCK PERCENTAGE (INCLUDES RV'S)	<div> <div>LOWER BURNETT RDE</div> <div>MP 18.44</div> <div>2350</div> <div>D 55%</div> <div>7.4%</div> <div>3</div> </div>
PROJECTS IN 8 YEAR PLAN CONSTRUCTION BIENNIMUM	NONE
LONG RANGE MOBILITY NEEDS	NONE
EXISTING TRAFFIC SIGNALS PROPOSED TRAFFIC SIGNALS	NONE
COLLISION REDUCTION CORRIDORS (HAC) COLLISION PREVENTION LOCATIONS (RISK)	NONE
EXISTING NON-MOTORIZED FACILITIES PROPOSED NON-MOTORIZED FACILITIES	<div>EXISTING PAVED SHLDS. ALL SR 140</div> <div>SAME AS ABOVE + FOOTHILLS TRAIL</div>
EXISTING TRANSIT FACILITIES KNOWN PROPOSED TRANSIT FACILITIES	<div>NONE</div> <div>(SEE SECTION 5-B)</div>
EXISTING PARK & RIDE LOTS PROPOSED PARK & RIDE LOTS	<div>NONE</div> <div>(SEE SECTION 5-B)</div>

Appendix C: Public Opinion Survey

Included here for informational purposes are the Executive Summary of the SR 162 Public Opinion Survey, the written business survey questionnaire, and the telephone questionnaire. The entire SR 162 Public Opinion Survey Report is on file at the WSDOT Olympic Region Planning Office.

SR162 Corridor Plan Surveys

EXECUTIVE SUMMARY AND DATA IMPLICATIONS

Introduction

This report summarizes data gathered through surveys conducted on the SR162 corridor between May 9th and May 20th 1996. Telephone surveys were conducted with 300 randomly selected residents in the area defined as running from Pioneer Way E in Sumner south and east to just past the Mundy Loss Road. In addition, a mail survey was sent to business along the SR162 corridor. Twenty-eight (28) total SR162 business surveys were completed and returned. At the same time these surveys were conducted for the SR162 corridor, similar survey efforts were underway for the SR161 and SR410 corridors.

These surveys are part of the public involvement program being conducted by the Washington State Department of Transportation Olympic Region to get feedback in a corridor planning effort underway in the SR162 corridor. In addition to these surveys, the Department has been guided by the input of an interjurisdictional steering committee, mailings to community residents, media releases and a series of community open houses to familiarize residents and businesses with the purposes of the Corridor Planning effort.

Organization of this Report

This Executive Summary is structured so that it can serve as a stand alone report and as an introduction to the full report of the surveys on the SR162 Corridor. As such, it includes a summary of data implications, as well as an analysis of how the data from the SR162 survey compare with data from the surveys conducted on SR161 and SR410. The purpose of this structure is to eliminate the redundancy typically found in survey reports of this type. A more detailed analysis of the survey data is presented in the following sections of this report. Detailed analyses for SR161 and SR410 are presented in separate reports, following the same report structure.

Data Implications

These surveys were conducted to obtain a broad and representative assessment of public preferences for potential improvements on SR162. The questionnaires were structured to respond to the following research questions:

- What problems do residents and businesses perceive on SR162, and what do they feel causes those problems?
- How severe do residents feel the problems are on SR162 and how do they feel the problems will change over time?
- Do residents and businesses see a connection between the problems they perceive and the solutions being proposed. What solutions are preferred in the corridor?

Due to the limited mail surveys returned (28 SR162 surveys), SR162 business responses are not included in the following Executive Summary. They are, however, discussed in the detailed findings.

What problems do residents perceive on SR162, and what do they feel causes those problems?

- ◆ Almost half (46%) of the residents surveyed along the SR162 corridor feel that "Highway 161 is not good...it definitely needs to have improvements made to it." Another 42 percent feel the highway is "okay, but could use some improvements."
- ◆ Traffic congestion/problems is the issue more than half (55%) the residents mention needs to be addressed in the SR162 corridor.
- ◆ When asked about specific issues, safety for pedestrians and bicyclists is the most clearly viewed as a "Major problem" (by 69%).

How severe do residents feel the problems are on SR162 and how do they feel the problems will change over time?

- ◆ More than eight out of ten (85%) feel that the overall traffic situation on and around SR162 has gotten worse in the past five years. Eight out of ten (81%) feel that the traffic situation will get much worse in the next ten years if the road remains in its current state.
- ◆ Nearly all (98%) of the residents who think traffic will get worse if nothing is done attribute at least some part of the problem to an increase in population in the area.
- ◆ More than three-fourths of residents (78%) feel that the traffic situation on the section of SR162 from Pioneer Way South to where the Puyallup and Carbon Rivers meet has gotten worse over the past five years. Nearly all residents (96%) think that the situation on this section will get worse in the next ten years if nothing is done.
- ◆ General population increase is mentioned by 97 percent as a reason for worsening traffic problems on this section of Highway SR162.

Do residents see a connection between the problems they perceive and the solutions being proposed. What solutions are preferred in the corridor?

- ◆ The majority (80%) of residents familiar with the area of Highway 162 which would be affected, support the proposal of four lanes with a median barrier in the area from Pioneer Avenue South to where the two rivers (Carbon and Puyallup) meet.

How do perceptions of SR162 compare with attitudes of SR161 and SR410?

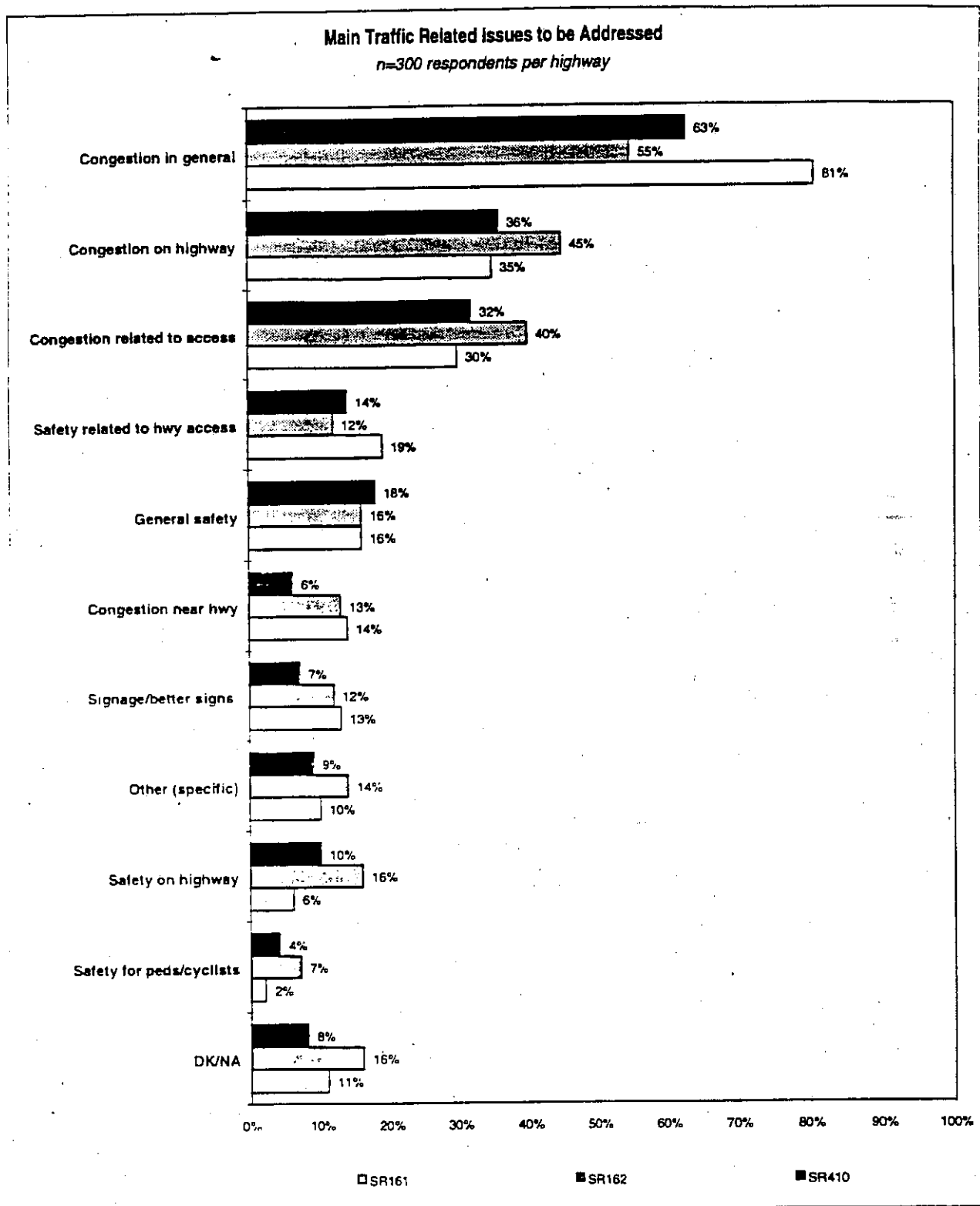
Responses to the three resident questionnaires - SR161, SR162 and SR410 - are very similar. Their concerns show residents identify with similar perceptions and beliefs.

- ◆ Consistently, respondents near the various corridors believe the three highways need improvements.

Business respondents are identified by shading. Please note small sample sizes of SR410 and SR162 businesses.

	Sample size	Not good, needs improving	OK, but could be improved	Fine as is
SR161	300 respondents	55%	32%	11%
SR161	439 respondents	68	24	4
SR162	300 respondents	46	42	12
SR162	28 respondents	64	42	12
SR410	300 respondents	31	48	22
SR410	64 respondents	36	45	13

- ◆ As depicted in the following graph, among respondents of the three surveys, congestion on the highways is the biggest concern whereas safety issues are mentioned less frequently.



- ◆ Throughout the surveys, support is likely for improvements; support is somewhat less likely for median barriers than for turn lanes.
- ◆ Residents who believe highways are in bad condition are more likely to believe the traffic situation will get much worse in the next 10 years if nothing is done and more likely to support improvements than other residents. On Highway 161, respondents who feel the highway definitely needs work are somewhat less likely than others to believe access problems contribute, or will contribute, to the traffic problem.

How do perceptions and attitudes from the business community compare to input from resident surveys?

- ◆ Perceptions and attitudes from businesses and local residents along the corridors are generally consistent.
- ◆ In general, businesses along SR161 and SR162 tend to view the overall current highway condition to be in somewhat worse condition than do local residents in those areas.
- ◆ Businesses are more likely than residents to view highway access as a problem, relating to both congestion and safety issues.
- ◆ Business respondents along SR161 and SR162 see the same trend of worsening traffic over the past five years as do residents in those areas. Respondents from SR410 businesses, however, are less likely than local residents to say traffic has gotten worse over the past years.
- ◆ There is little to no difference, however, among businesses and residents regarding the future of SR410, SR161, and SR162 - the majority of all respondents feel traffic conditions will get worse with no improvements.
- ◆ Business respondents on SR161 and SR162 are more likely than resident respondents to blame a worsened traffic situation on access problems. Respondents with businesses along SR410 are significantly less likely than local residents or businesses along other corridors to view roadway design issues as causing problems.

**DRAFT QUESTIONNAIRE FOR PRETEST
SR 162**

SR 162 QUESTIONNAIRE

Hello, may I please speak to one of the heads of household?

SCHEDULE CALLBACK IF NECESSARY

This is a survey about transportation on State Highway Route 162 (READ: "One sixty two."). As you may be aware, the Washington State Department of Transportation has been working with a local advisory committee to develop a plan for Highway 162 intended to improve traffic conditions there.

I am _____ with _____ and you are one of 300 persons, selected at random, to participate in this study to help figure out what kinds of solutions make the most sense.

S.1 Before we get started, are you still at [READ ADDRESS FROM SAMPLE LIST]?

- 1 Yes
- 2 No - THANK AND TERMINATE

Q1 Would you say you are...(READ)

- 1 Very familiar,
- 2 Fairly familiar,
- 3 Not very familiar, or
- 4 Not at all familiar with Highway 162? - THANK AND TERMINATE.

Q2 So that we can get a general sense for how the community feels about Highway 162, I'd like to read three statements to you. Thinking about three important issues to those who live along and/or use the highway - traffic congestion, access onto and off of the highway and safety - please choose the one statement you most agree with. (READ THROUGH BEFORE RECORDING RESPONSE. BRIEF PAUSE AFTER READING EACH.)

- 1 Highway 162 is just fine as is. I do not wish to see any changes made to it.
- 2 Highway 162 is OK, but I think there are some things that could be done to improve it.
- 3 The current state of Highway 162 section is not good. I think it definitely needs to have improvements made to it.
- 4 (DON'T READ) No Choice

Q3 (If '2' or '3' from Q2) What do you think are the main traffic-related issues that should be addressed on and/or around Highway 162? (DON'T READ)

- 1 Traffic congestion/problems - general (on and around highway)
- 2 Traffic congestion/problems on the highway itself
- 3 Traffic congestion/problems related to access onto and off of the highway
- 4 Traffic congestion/problems near the highway/side streets
- 5 Safety - general
- 6 Safety on the highway
- 7 Safety related to access onto and off of the highway
- 8 Safety for pedestrians and bicyclists
- 9 Signage/Need better signs indicating exits/streets, etc.
- 10 Other (Specify): _____
- 11 Other (Specify): _____

Now I'm going to read to you several issues relating to the traffic on and around Highway 162. For each of these, please tell me if you think it is a major problem, a moderate problem or not a problem. (READ AND ROTATE)

		Major	Moderate	None	DK
Q4	Traffic congestion <u>on the highway itself</u>	1	2	3	9
Q5	Traffic congestion <u>related to access onto and off of the highway</u>	1	2	3	9
Q6	Traffic congestion <u>near</u> the highway, not on it or related to access onto or off of it (CLARIFY: "That is, general traffic circulation in the vicinity of the highway").	1	2	3	9
Q7	Safety <u>on the highway itself</u>	1	2	3	9
Q8	Safety <u>related to access on and off of the highway</u>	1	2	3	9
Q9	Safety for <u>pedestrians and bicyclists</u>	1	2	3	9
Q10	Directional signage, like exit signs or street signs telling you where you are or how far an exit for a certain street is	1	2	3	9

Q11 Do you feel the overall traffic situation on and around Highway 162 over the past 5 years has...(READ)?

- 1 Gotten better,
- 2 Gotten worse, or
- 3 Remained about the same?

Q12 If Highway 162 remains in its current state, do you feel the overall traffic situation on and around it the next 10 years will ...(READ)

- 1 Get much worse,
- 2 Get somewhat worse,
- 3 Stay about the same,
- 4 Get somewhat better, or
- 5 Get much better?

Q12a (If '1' or '2' in Q12) Why do you say that?

- 1 General population increase in the area
- 2 The roadway is too narrow or not designed for volume of traffic
- 3 Problems with access onto and off of the highway
- 4 Inadequate roads and signals near the highway
- 5 Other (Specify): _____
- 6 Other (Specify): _____

Now we're going to talk about a specific section of Highway 162.

Highway 162 Section #1: This section of Highway 162 runs from Pioneer Way, south of Sumner, south down to 144th Street East, near where the Puyallup and Carbon Rivers meet.

Q13 Would you say you are...(READ)

- 1 Very familiar,
- 2 Fairly familiar,
- 3 Not very familiar, or
- 4 Not at all familiar with this section along Highway 162? - SKIP TO DEMOGRAPHICS

Q14 Thinking now just about this section of Highway 162, do you feel the overall traffic situation on and around this section over the past 5 years has...(READ)?

- 1 Gotten better,
- 2 Gotten worse, or
- 3 Remained about the same?

Q15 Again thinking just of this section of Highway 162, if it remains in its current state do you feel the overall traffic situation on and around this section in the next 10 years will ...(READ)

- 1 Get much worse,
- 2 Get somewhat worse,
- 3 Stay about the same,
- 4 Get somewhat better, or
- 5 Get much better?

Q15a (If '1' or '2' in Q15) Why do you say that?

- 1 General population increase in the area
- 2 The roadway is too narrow or not designed for volume of traffic
- 3 Problems with access onto and off of the highway
- 4 Inadequate roads and signals near the highway
- 5 Other (Specify): _____
- 6 Other (Specify): _____

Q16 An option to attempt to solve some of the concerns about 162, and this section in particular, is to add to the current lanes, so that there would be four lanes. With this option there would be two lanes each way with a median barrier in the middle. Openings would be at major intersections, allowing left turns and turnarounds. How likely would you be to support this proposed option? Would you be...(READ)

- 1 Very likely,
- 2 Somewhat likely,
- 3 Somewhat unlikely, or
- 4 Very unlikely?

DEMOGRAPHICS

Now we have just a few demographic questions for statistical categorization purposes only. All of your responses will remain confidential.

Q17 In an average week, how often do you use Highway 162 on any or all of the parts of it between Sumner and Orting? (Round trip daily commute, or any other type of round trip = two trips)

_____ # of trip per week

Q18 How long have you lived in your current residence?

- 1 Less than 2 years
- 2 2-5 years
- 3 6-10 years
- 4 11 to 15 years
- 5 Over 15 years

Q19 How many persons live in your household at the current time?

_____ # of persons in household

Q20 Do you own or rent your home?

- 1 Own
- 2 Rent

BY OBSERVATION: 1 MALE 2 FEMALE



Business Survey

nnnnn2



The Washington State Department of Transportation has been working to assess what sort of improvements make the most sense for Highway 162. You are one of many businesses along 162 we are contacting for feedback about potential improvements. Please take a few minutes to fill out this questionnaire, and return by mail (postage paid) within 7 days. Thank you!

Q1 - In order to get a general sense for how the community feels about Highway 162, please choose the one statement you most agree with, thinking about traffic congestion, access onto and off of the highway and safety. (Please check one only)

- ☐ Highway 162 is just fine as is. I do not wish to see any changes made to it - *Skip now to Q3*
- ☐ Highway 162 is OK, but I think there are some things that could be done to improve it.
- ☐ The current state of Highway 162 section is not good. I think it definitely needs to have improvements made to it.
- ☐ No opinion - *Skip now to Q3*

Q2 - What do you think are the main traffic-related issues that should be addressed on and/or around Highway 162?

(Please check as many as are applicable)

- ☐ General traffic congestion/problems on and around highway
- ☐ Traffic congestion/problems on the highway itself
- ☐ Traffic congestion/problems related to access onto and off of the highway
- ☐ Traffic congestion/problems near the highway/side streets
- ☐ Safety - general
- ☐ Safety on the highway
- ☐ Safety related to access onto and off of the highway
- ☐ Safety for pedestrians and bicyclists
- ☐ Signage/Need better signs indicating exits/streets, etc.
- ☐ Other - Please specify: _____

For each of the following highway issues, please indicate whether it is a major problem, a moderate problem or not a problem.

Q3 - Traffic congestion on the highway itself

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q4 - Traffic congestion related to access onto and off of the highway

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q5 - Traffic congestion near the highway, not on it related to access onto or off of it. (General traffic congestion in the vicinity of the highway)

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q6 - Safety on the highway itself

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q7 - Safety related to access on and off of the highway

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q8 - Safety for pedestrians and bicyclists

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q9 - Directional signage (like exit signs or street signs telling you where you are or how far an exit for a certain street is)

- ☐ Major problem
- ☐ Moderate problem
- ☐ Not a problem
- ☐ Don't know

Q10 - Do you feel the overall traffic situation on and around Highway 162 over the past 5 years has...

- ☐ Gotten better,
- ☐ Gotten worse, or
- ☐ Remained about the same?

Q11 - If Highway 162 remains in its current state, do you feel the overall traffic situation on and around it in the next 10 years will ...

- ☐ Get much worse,
- ☐ Get somewhat worse,
- ☐ Stay about the same, - *Skip now to Q12*
- ☐ Get somewhat better, or - *Skip now to Q12*
- ☐ Get much better? - *Skip now to Q12*

Q11a - Why do you say that? (You may check more than one)

- ☐ General population increase in the area
- ☐ The roadway is too narrow/not designed for volume of traffic
- ☐ Problems with access onto and off of the highway
- ☐ Inadequate roads and signals near the highway
- ☐ Other - Please specify: _____

The next few questions are about a specific section of Highway 162. Questions 12 through 14 refer to the section of Highway 162 that runs from Pioneer Way, south of Summer, south down to 144th Street East, near where the Puyallup and Carbon Rivers meet.

Q12 - Thinking now just about this section of Highway 162, do you feel the overall traffic situation on and around this section over the past 5 years has...

- ☐ Gotten better,
- ☐ Gotten worse, or
- ☐ Remained about the same?

Q13 - Again thinking just of this section of Highway 162, if it remains in its current state do you feel the overall traffic situation on and around this section in the next 10 years will ...

- ☐ Get much worse,
- ☐ Get somewhat worse,
- ☐ Stay about the same, - *Skip now to Q14*
- ☐ Get somewhat better, or - *Skip now to Q14*
- ☐ Get much better - *Skip now to Q14*

Q13a - Why do you say that?

- ☐ General population increase in the area
- ☐ The roadway is too narrow/not designed for volume of traffic
- ☐ Problems with access onto and off of the highway
- ☐ Inadequate roads and signals near the highway
- ☐ Other - Please specify: _____

Q14 - An option to attempt to solve some of the concerns about 162, and this section in particular, is to add to the current lanes, so that there would be four lanes. With this option there would be two lanes each way with a median barrier in the middle. Openings would be at major intersections, allowing left turns and turnarounds. How likely would you be to support this proposed option? Would you be...

- ☐ Very likely,
☐ Somewhat likely,
☐ Somewhat unlikely, or
☐ Very unlikely to support this option?

The following questions are for statistical purposes only. All of your responses will remain confidential.

Q15 - In an average week, how often do you use Highway 162 on any or all of the parts of it between Sumner and Orting? (Round trip daily commute, or any other type of round trip = two trips)

0 # of trip per week

Q16 - How many employees does your business have?

23 # of employees

Q17 - How long has your business been at its current site?

- ☐ Less than 2 years
☐ 2-5 years
☐ 6-10 years
☐ 11 to 15 years
☒ Over 15 years

Q18 - What type of business is this? RETAIL

- ☐ Manufacturing
☐ Business services
☐ Personal services
☒ Retail
☐ Wholesaler/Distributor
☐ Other - Please specify:

Q19 - What is the address of this business?

903 ALDER AVE
 Street Address

Suite Number

SUMNER WASH. 98590
 City/Zip Code

Please fold the survey and tape the seal so that the Business Reply Mail panel is showing and mail it within seven days.

Thanks for your help with our research. Your opinions are greatly appreciated!

Refold so Business Reply Address shows and tape closed



Washington State
 Department of Transportation
 Business Survey

No postage
 required if
 mailed in the
 United States

BUSINESS REPLY MAIL
 FIRST CLASS MAIL PERMIT NO. 155 OLYMPIA, WA

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 600 UNIVERSITY ST STE 2010
 SEATTLE WA 98101-9956

Appendix D: Agency Correspondence

The purpose of this appendix is to present letters of concurrence that were received by the participating agencies.

In addition to their on-going involvement in the route planning of SR 162, the Steering Committee members were sent copies of the Draft SR 162 Route Development Plan in September, 1996. In doing so WSDOT requested that the steering members review and provide written comments reflecting their agency's concurrence of the Draft plan.

The following agencies were provided with a Draft Route Development Plan for their review.

**Puget Sound Regional Council
Pierce County
City of Orting
City of Sumner
Town of South Prairie
Pierce Transit**

As of December 31, 1996, the following agencies had provided written comments addressed to WSDOT regarding the Draft SR 162 Route Development Plan:

**Puget Sound Regional Council
City of Orting
City of Sumner**

The following letters highlight support and concerns by the above mentioned participating agencies to issues addressed in the SR 162 Route Development Plan.



**Washington State
Department of Transportation**

Sid Morrison
Secretary of Transportation

Olympic Region Headquarters
5720 Capitol Boulevard, Tumwater
P.O. Box 47440
Olympia, WA 98504-7440

(360) 357-2600
Fax (360) 357-2601

December 12, 1996

Mr. Les MacDonald, P. E.
Public Works Director
City of Sumner
1104 Maple Street
Sumner, WA 98390

Dear Mr. MacDonald:

I am responding to your letter of November 18, 1996, regarding the State Route (SR) 162 draft Route Development Plan (RDP). Let me begin by assuring you that a copy of your letter will be included in the final documentation. We will also address your comments within the RDP, per the following discussion of each:

Page 2-10 Table 2.5-1

We will clarify where needed in the RDP that TWLTL's are an acceptable application for Class 3 Access Management.

We will note in the RDP that median barrier treatment would not be applied to the Class 2 Access Management segments unless additional lanes were added.

Page 3-6

We will clarify the intended purpose of this paragraph, and show how it is tied into the RDP. It is intended to provide future guidance to the Region Design Offices.

Page 3-13 Table 3.5-1

We will provide an explanation of the various classification systems (e.g., access, roadside, functional) in Chapter 2 to help clarify these issues. The impact would be minimal in terms of roadside conditions. However, we will follow-up with our Olympia Service Center to develop consistency and current status across the classifications on this section of SR 162.

Page 3-15 Table ?

We will provide the Table # and renumber pages accordingly.

SR 410 Ramps

We will modify the RDP in Section 2.1 "Highway Location and Route Overview", to identify that SR 162 actually begins at the north pavement seat of the SR 410 over-crossing structure. Because of this, the SR 410 westbound on and off-ramps are not part of SR 162. To clarify, the first intersection along SR 162 is where the SR 410 eastbound off and on-ramps intersect at milepost 0.08.

Page ? Table 4.4-2

We will modify the RDP to show the appropriate zoning and future incorporation. We will also incorporate land use maps into the RDP.

Section 6

We appreciate your request to review this section, and regret that it was not available for review. We have delayed final printing for several months now in order to incorporate comments from each jurisdiction, and plan to prepare the final document without distribution section 6 for further review. However, we will state in the beginning of this section that we did not distribute it for comments before final printing, but will also clearly state that this fact would not preclude the local jurisdictions from further discussion, refinement, and decision-making of these issues.

General

We concur with this comment, and will incorporate the discussion into Chapter 6. These issues will also be covered in detail during design stages of work on SR 162.

We will conclude the process for the time being on SR 162 as we complete and distribute the final draft, including revisions as noted above, within the next few weeks. Please be assured that as those jurisdictions along SR 162 update their land use and transportation models and plans, and as other changes occur along the route, we will make updates to the RDP accordingly as our budget and time allow.

Thank you for being involved in the RDP process, and for supplying comments that will improve the draft RDP. We encourage your continued communication with the Planning Office on RDP issues and other planning issues as they arise. If you have further questions or comments, please contact Chris Schroedel at (360) 357-2763.

Sincerely,



Gary Farnsworth
Assistant Transportation Planning Manager

GCF:cs

City of Sumner

1104 Maple Street
Sumner, Washington 98390

(206) 863-8300
Fax (206) 863-2850



MEMORANDUM

TO: Chris Schroedel, WSDOT Planning Engineer

FROM: Les MacDonald, P.E., Public Works Director

RE: SR 162 Route Development Plan
Review Comments

DATE: November 18, 1996

Upon review of the draft RDP I have the following comments and observations. Please let me know if you have any questions.

Page 2-10 Table 2.5-1

Need to clarify that the segment from MP 0.10 to 0.53 is a Class 3 access but will have the TWLTL designated for Class 4 facilities

Need to clarify that Class 2 segment from MP 10.34 to 17.25 is not recommended to have a center barrier due to limited alternate routes and rural character. This is also true from MP 17.18 to 19.78. Portions of this facility may remain two lane.

Page 3-6

Need to clarify purpose of the last paragraph. It gives information but is not tied into the RDP.

Page 3-13 Table 3.5-1

If Alderton is classified as Semi - Urban shouldn't Orting, Sumner, and South Prairie be reclassified? What would be the impact of reclassification?

Page 3-15 Table ?

Need to provide Table # and renumber pages to accommodate 3 page table.

SR 410 ramps intersection should have reference on distance to next signal unless references shown are by reverse mile post.

Page ? Table 4.4-2

Shows zoning from Sumner Comp. Plan that is now outside the city's CUGA. Not likely to be incorporated into city in foreseeable future.

Section 6

Would like to review the draft of this section before the final RDP is printed. This could have important impacts on Sumner's issues with drainage and water quality.

General

Need to address drainage, water quality and landscaping issues along entire route.

Appendix E: References

- City of Sumner. *Comprehensive Plan*. April 1994
- City of Sumner. *Comprehensive Transportation Plan*. April 4, 1994
- City of Orting. *Comprehensive Plan*. July 7, 1995
- Pierce County. *Comprehensive Plan and Related Documents*. Various Dates.
- Pierce County. *Transportation Plan*. 1992.
- Pierce County. *EMME2 Transportation Model*.
- Puget Sound Regional Council. *Vision 2020 Update and Metropolitan Transportation Plan*. March 1995.
- Transportation Research Board. *Highway Capacity Manual Special Report 209*. Washington, DC. 1994.
- Washington State Department of Transportation. *State Highway System Plan 1997-2016*. March 1996.
- Washington State Department of Transportation. *Design Manual*.
- American Association of State Highway and Transportation Officials (AASHTO). *A Policy on Geometric Design of Highways and Streets*. 1990
- Washington State Department of Transportation. *Access Management Plan*.
- Washington State Department of Transportation. *Master Plan For Limited Access Highways Route Listing*. 1988.
- Washington State Department of Transportation. *Functional Classification of Public Roads National Classifications, Maps and accompanying spreadsheets*. March 1993.
- Washington State Department of Transportation. *Roadside Classification Plan*. 1996
- Washington State Department of Transportation. *State Highway Log Planning Report*. 1996. Planning, Research, and Public Transportation Division. Annual publication.
- Washington State Department of Transportation. *Annual Traffic Report*. 1994. Transit, Research, and Intermodal Planning Division.
- Washington State Department of Transportation. *Annual Bridge List*. 1995. Highways Division. Project Development. Bridge and Structures Branch.
- Washington State Department of Community Development. *National Historic Registers*.

Puget Sound Regional Council

PSRC

RECEIVED

OCT 28 1996

OLYMPIC REGION

October 25, 1996

Gary Farnsworth
Assistant Transportation Planning Manager
Washington State Department of Transportation
Olympic Region Headquarters
5720 Capitol Blvd., Tumwater
P.O. Box 47440
Olympia, WA 98504-7440

Dear Mr. Farnsworth:

Thank you for your transmittal of the Draft Route Development Plans for SR 161, SR 162 and SR 410. In general, we are pleased with the documents' attention to issues such as access management and the need to look at multimodal improvements to address capacity requirements along portions of these routes. We would also offer the following specific comments:

- Within Section 5 of each document (Proposed Route Improvements), additional detail should be given to the benefit of **restricting access** to the state highway, as well as how/where those improvements might be accomplished. Benefits could be improved level of service, decreased travel time, etc. Also, describing additional lanes as additional *general purpose* lanes would help distinguish these improvements from HOV.
- The Executive Summary of each document should describe the State's ability to fund the improvements outlined in the RDP. Nearly all of the mobility improvements listed for these routes would require additional revenue authority, such as an increased gas tax. Although this is briefly referred to in Section 8, its importance warrants a discussion at the beginning of the document.

We would like to also acknowledge the extensive efforts you have made over the last year and a half to involve the public as well as the affected communities in the corridors. Those efforts should create a solid foundation of support by all parties for the recommendations contained in the route development plans.

Sincerely,



Anthony W. Lickteig
Associate Planner

cc: Peter Beaulieu, Principal Planner
Don Pethick, Principal Planner
c:\transys\rdppierc.o96 awl

City of Orting

P.O. Box 489, Orting, WA 98360-0489

Phone: (360) 893-2219

Fax: (360) 893-6809

November 12, 1996

Mr. Gary Farnsworth
Washington State Department
Of Transportation
Olympic Region
P.O. Box 47440
Olympia, WA 98504-7440

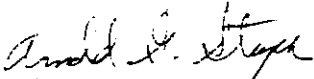
Dear Mr. Farnsworth:

The City has reviewed the Route Development Plan for State Route 162, SR 410 to Junction SR 165. The City concurs with the findings and recommendations as presented in the report. However, the City believes that projected population growth estimate within the SR162 corridor is conservative.

Extensive development is currently underway within the City of Orting and throughout the SR 162 corridor. This development, in conjunction with transient traffic generated by growth within surrounding areas will have a dramatic impact on the level of service on SR 162. Because of this growth, the City strongly encourages that the SR 162 route be reconsidered for inclusion on the State's "financially constrained" list of projects.

Thank you for the opportunity to comment on the Route Development Plan for State Route 162.

Sincerely,



Arnold G. Stapnes
City Administrator

Cc: Guy S. Colorossi, Mayor
Councilmembers
Chris Schroedel, WSDOT

Puget Sound Regional Council



November 27, 1995

Steve Bennett
Regional Development Engineer
Washington State Department of Transportation
Olympic Region Headquarters
5270 Capitol Blvd., Tumwater
P.O. Box 47440
Olympia, WA 98504-7440

Dear Mr. Bennett:

In response to your October 19, 20, and 23 letters concerning the SR 161, SR 162, and SR 410 corridor route development plans, the Regional Council staff would like to transmit the following comments on the issues identified in your letters. I apologize for the delay in responding, but due to personal reasons, I was unable to attend any of the steering committee meetings held in early November.

Regarding specific route issues, the following need to be addressed:

- For SR 161 particularly, attention to the connection between the pedestrian/bicycle facilities on the state route and those facilities serving the urban centers is necessary. A pedestrian overcrossing to South Hill Mall was proposed by Puyallup, but there is no reference to any pedestrian/bicycle connection between the Puyallup urban center and proposed facilities on SR 161, SR 162, and SR 410. How would these state route facilities serve to improve those connections? Are there local facility connections proposed to the urban centers of South Hill Mall and Puyallup? As you know, an important policy of VISION 2020 is to improve connections to centers, especially for non-SOV modes.
- On SR 162, access management on the segment between Orting and South Prairie was suggested to change from Class 3 to Class 2, with a median barrier possible. This is essentially a rural area and it does not appear that control of access through use of a barrier is appropriate.

The following are general comments for all routes:

- The larger long-term planning environment for Pierce County should be

addressed. What is the effect of proposed major regional highway corridors on the plans for each route? What effect will the proposed Cross Base Highway or other planned facilities in the area have on traffic volumes on these three routes? Do future interchanges with proposed corridors need to be included in the route development plans for SR 161, 162, and 410? Should the three routes be looked at as one system serving that area of the county?

- The route development plans should address how land use and transportation will work together to bring about the desired movement of people and goods in the area. Access management is more likely to be successful if a combined land use/transportation strategy is used. Preservation of right-of-way along the three routes should be addressed as part of that strategy. (I know that land use/transportation links found in local comprehensive plans were documented early in this planning process. Are these going to be incorporated into the route development plans?)

We appreciate the opportunity to comment on the issues and look forward to participating in the upcoming phases of work. If you have any questions or comments about the above, please give me a call at 464-6180.

Sincerely,



Anthony W. Lickteig
Associate Planner

cc: Peter Beaulieu, Principal Planner
Don Pethick, Principal Planner

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